Query/Command : HIS

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File : PLUSPAT

SS  Results
  1         5  (1) ..FAM US20050253585/PN
  2         1  ..CITF US20050253585/PN
  3         1  ..CITB US20050253585/PN

Search statement   4
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Query/Command : PRT MAX SET IMG

1 / 5 PLUSPAT - ©QUESTEL-ORBIT - image

PN - US2005253585 A1 20051117 [US20050253585]

TI - (A1) Permanent magnet for magnet resonance

LA - ENGLISH (ENG)

PA - (A1) SHENYANG NEUSOFT BOPU NMR TECH (CN)

PA0 - Shenyang Neusoft Bopu NMR Tech Co., Ltd.; No. 149 , ZhuBo Road, New & High-tech District, Shen Yang [CN]

IN - (A1) XIAO SHENGQIAN (CN); ZHAO SHIJIE (CN); CHEN GUANGRAN (CN)

AP - US50957304 20040929 [2004US-0509573]

FD - PCT/CN03/00229 20030328 [2003WO-CN00229]

PR - WOCN0300229 20030328 [2003WO-CN00229]
CN02210996U 20020401 [2002CN-U210996]

IC - (A1) G01V-003/00

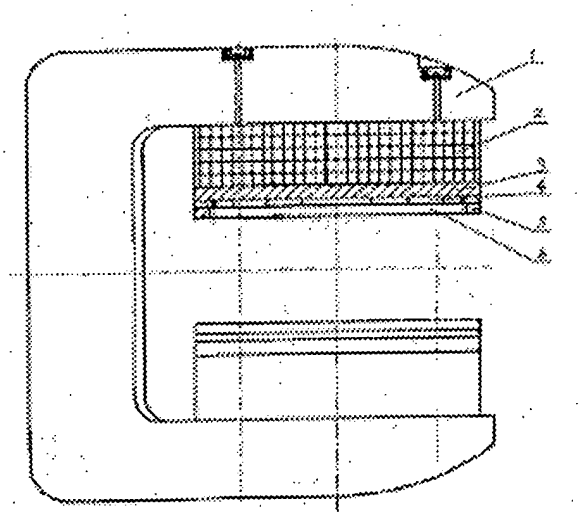
PCL - ORIGINAL (O) : 324319000

DT - Basic

STG - (A1) Utility Patent Application published on or after January 2, 2001

AB - The present invention discloses a permanent magnet for magnetic resonance, which is used for a magnetic resonance imaging apparatus for medical diagnosis. The permanent magnet of the present comprises a yoke; magnetic material; pole heads; plates for eliminating vortex; rings for uniformising magnetic field; and gradient coils, said yoke of the magnet has an integral and substantially C-shaped structure with two columns and is open type. This invention fully ensures the parallelism of the lower and upper poles, greatly improves the mechanical strength of the yoke, and it can offer good magnetic uniformity and fluent magnetic current.

UP - 2005-46



2 / 5 PLUSPAT - ©QUESTEL-ORBIT

PN - AU2003227173 A8 20031013 [AU2003227173]

PN2 - AU2003227173 A1 20031013 [AU2003227173]

TI - (A8) A permanent magnet for magnet resonance

PA - (A8) SHENYANG NEUSOFT BOPU NMR TECH

PA2 - (A1) SHENYANG NEUSOFT DIGITAL MEDIC

IN - (A8) ZHAO SHIJIE; CHEN GUANGRAN; XIAO SHENGQIAN

AP	-	AU2003227173 20030328 [2003AU-0227173]
PR	-	CN02210965U 20020401 [2002CN-U210965] WOCN0300229 20030328 [2003WO-CN00229]
IC	-	(A8) A61B-005/055
EC	-	G01R-033/38F G01R-033/383
STG	-	(A8) Corrected first page
STG2	-	(A1) Patent not preceeded by A1-lapsed
UP	-	2005-06

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3 / 5 PLUSPAT - ©QUESTEL-ORBIT - image

PN	-	EP1491138 A1 20041229 [EP1491138]
PN2	-	EP1491138 A4 20050622 [EP1491138]
TI	-	(A1) A PERMANENT MAGNET FOR MAGNET RESONANCE
OTI	-	(A1) PERMANENTMAGNET FÜR MAGNETRESONANZ (A1) AIMANT PERMANENT POUR RESONANCE MAGNETIQUE
LA	-	ENGLISH (ENG)
PA	-	(A1) SHENYANG NEUSOFT BOPU NMR TECH (CN)
PA0	-	Shenyang Neusoft BOPU NMR Tech Co., Ltd.; No. 149 Zhubo Road, New & High-Tech District; Shenyang, Liaoning 110179 (CN)
PA2	-	(A4) SHENYANG NEUSOFT BOPU NMR TECH (CN)
IN	-	(A1) CHEN GUANGRAN (CN); ZHAO SHIJIE (CN); XIAO SHENGQIAN (CN)
AP	-	EP03714628 20030328 [2003EP-0714628]
PR	-	WOCN0300229 20030328 [2003WO-CN00229] CN02210965U 20020401 [2002CN-U210965]
IC	-	(A1) A61B-005/055 G01R-033/383
EC	-	G01R-033/383
DS	-	AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR AL LT LV MK
DT	-	Basic
CT	-	Cited in the search report WO0153847(A)(Cat. A);EP1102077(A)(Cat. A) See references of WO 03082106A1
STG	-	(A1) Public. Of applic. With search report
STG2	-	(A4) Publ. Of suppl. search report
AB	-	The present invention discloses a permanent magnet for magnetic resonance, which is used for a magnetic resonance imaging apparatus for medical diagnosis. The permanent magnet of the present comprises a yoke; magnetic material; pole heads; plates for eliminating vortex; rings for uniformising magnetic field; and gradient coils, said yoke of the magnet has an integral and substantially C-shaped structure with two columns and is open type. This invention fully ensures the parallelism of the lower and upper poles, greatly improves the mechanical strength of the yoke, and it can offer good magnetic uniformity and fluent magnetic current.
UP	-	2004-53

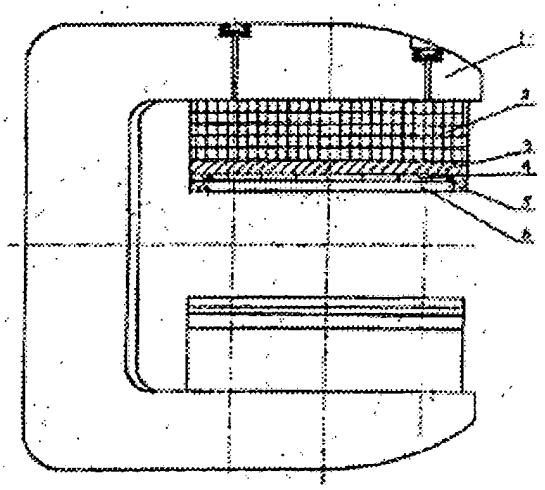


Fig.1

4 / 5 PLUSPAT - ©QUESTEL-ORBIT - image

PN - WO03082106 A1 20031009 [WO200382106]

PN2 - WO03082106 A8 20041118 [WO200382106]

TI - (A1) A PERMANENT MAGNET FOR MAGNET RESONANCE

OTI - (A1) AIMANT PERMANENT POUR RESONANCE MAGNETIQUE

LA - CHINESE (CHI)

PA - (A1) CHEN GUANGRAN (CN); ZHAO SHIJIE (CN); XIAO SHENGQIAN (CN); SHENYANG NEUSOFT DIGITAL MEDIC (CN)

PA0 - SHENYANG NEUSOFT DIGITAL MEDICAL SYSTEMS CO., LTD.; Neusoft Park, Hun Nan Industrial Area, New and High-Tech Development Zone, Shenyang, Liaoning 110179 (CN) (except US)
XIAO, Shengqian; Neusoft Park, Hun Nan Industrial Area, New and High-Tech Development Zone, Shenyang, Liaoning 110179 (CN) (only US)
ZHAO, Shijie; Neusoft Park, Hun Nan Industrial Area, New and High-Tech Development Zone, Shenyang, Liaoning 110179 (CN) (only US)
CHEN, Guangran; Neusoft Park, Hun Nan Industrial Area, New and High-Tech Development Zone, Shenyang, Liaoning 110179 (CN) (only US)

PA2 - (A8) CHEN GUANGRAN (CN); ZHAO SHIJIE (CN); XIAO SHENGQIAN (CN); SHENYANG NEUSOFT BOPU NMR TECH (CN)

IN - (A1) CHEN GUANGRAN (CN); ZHAO SHIJIE (CN); XIAO SHENGQIAN (CN)

AP - WOCN0300229 20030328 [2003WO-CN00229]

PR - CN02210965U 20020401 [2002CN-U210965]

IC - (A1) A61B-005/055

EC - G01R-033/383

DS - AE; AG; AL; AM; AT; AU; AZ; BA; BB; BG; BR; BY; BZ; CA; CH; CN; CO; CR; CU; CZ; DE; DK; DM; DZ; EC; EE; ES; FI; GB; GD; GE; GH; GM; HR; HU; ID; IL; IN; IS; JP; KE; KG; KP; KR; KZ; LC; LK; LR; LS; LT; LU; LV; MA; MD; MG; MK; MN; MW; MX; MZ; NO; NZ; OM; PH; PL; PT; RO; RU; SC; SD; SE; SG; SK; SL; TJ; TM; TN; TR; TT; TZ; UA; UG; US; UZ; VC; VN; YU; ZA; ZM; ZW; European patent (AT; BE; BG; CH; CY; CZ; DE; DK; EE; ES; FI; FR; GB; GR; HU; IE; IT; LU; MC; NL; PT; RO; SE; SI; SK; TR); OAPI patent (BF; BJ; CF; CG; CI; CM; GA; GN; GQ; GW; ML; MR; NE; SN; TD; TG); ARIPO patent (GH; GM; KE; LS; MW; MZ; SD; SL; SZ; TZ; UG; ZM; ZW); Eurasian patent (AM; AZ; BY; KG; KZ; MD; RU; TJ; TM)

DT - Corresponding document

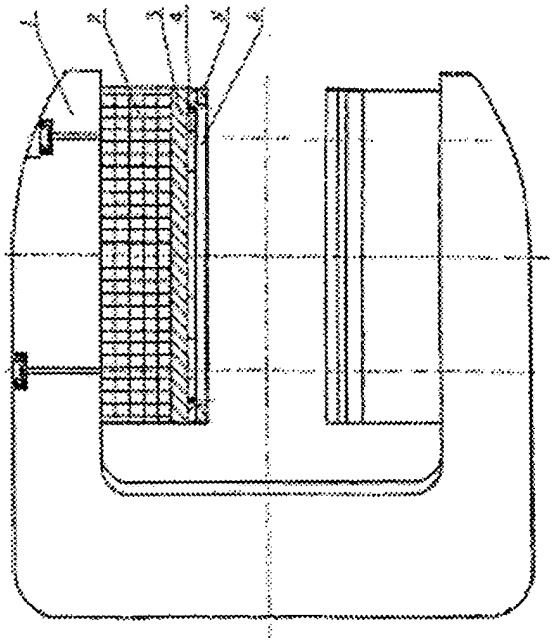
CT - Cited in the search report
US6023165(A)(Cat. Y);CN2481283(Y)(Cat. Y);CN1252977(A)(Cat. Y);CN1102971(A)(Cat. A);CN2397891(Y)(Cat. A);CN2296694(Y)(Cat. A);US5818901(A)(Cat. A);US6335623(B1)(Cat. A)
See also references of EP 1491138A1

STG - (A1) Publ. Of int. Appl. With int. Search rep

STG2 - (A8) Modified first page

AB - A permanent magnet for magnetic resonance, which is a permanent magnet for medical diagnosis magnetic resonance imaging, consists of the yoke (1), magnetic material (2), pole (3) a disc for eliminating vortex (4), a ring for producing an uniformal magnetic field (5), a coil which exhibits a gradient (6), the yoke (1) is a C-shaped structure with two columns.t

UP - 2003-42



5 / 5 PLUSPAT - ©QUESTEL-ORBIT

PN - CN2542205 Y 20030402 [CN2542205U]

TI - (Y) Two-column open C-type permanent-magnet magnetic resonance magnet

PA - (Y) DONGRUAN DIGITAL MEDICAL SYSTE (CN)

IN - (Y) CHEN GUANGRAN (CN); ZHAO SHIJIE (CN); XIAO SHENGQIAN (CN)

AP - CN02210965U 20020401 [2002CN-U210965]

PR - CN02210965U 20020401 [2002CN-U210965]

IC - (Y) A61B-005/055

STG - (Y) Granted Utility model

UP - 2003-15

Search statement 2

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SYSTEM:OS  - DIALOG OneSearch
  File 155:MEDLINE(R) 1951-2005/Dec 14
         (c) format only 2006 Dialog
*File 155: Medline has resumed updating.
  File   2:INSPEC 1898-2006/Dec W4
         (c) 2006 Institution of Electrical Engineers
*File   2: Archive data back to 1898 has been added to File 2.
  File   5:Biosis Previews(R) 1969-2006/Jan W2
         (c) 2006 BIOSIS
  File   6:NTIS 1964-2006/Jan W2
         (c) 2006 NTIS, Intl Cpyrght All Rights Res
  File   8:Ei Compendex(R) 1970-2006/Jan W2
         (c) 2006 Elsevier Eng.  Info. Inc.
  File  73:EMBASE 1974-2006/Jan 18
         (c) 2006 Elsevier Science B.V.
  File 987:TULSA (Petroleum Abs) 1965-2006/Jan W1
         (c)2006 The University of Tulsa
*File 987: GR (Greece), IS (Iceland), SG (Singapore), and SI (Slovenia)
have been added to AC=.
  File  94:JICST-EPlus 1985-2006/Nov W1
         (c)2006 Japan Science and Tech Corp(JST)
  File  35:Dissertation Abs Online 1861-2005/Dec
         (c) 2005 ProQuest Info&Learning
  File 144:Pascal 1973-2006/Dec W4
         (c) 2006 INIST/CNRS
  File 105:AESIS 1851-2001/Jul
         (c) 2001 Australian Mineral Foundation Inc
*File 105: This file is closed (no updates)
  File  99:Wilson Appl. Sci & Tech Abs 1983-2005/Dec
         (c) 2006 The HW Wilson Co.
  File  58:GeoArchive 1974-2005/Jun
         (c) 2005 Geosystems
  File  34:SciSearch(R) Cited Ref Sci 1990-2006/Jan W2
         (c) 2006 Inst for Sci Info
  File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
         (c) 1998 Inst for Sci Info
  File 292:GEOBASE(TM) 1980-2005/Dec W4
         (c) 2005 Elsevier Science Ltd.
  File  89:GeoRef 1785-2006/Jan B1
         (c) 2006 American Geological Institute
*File  89: Please see HELP ALERTALL for new Alert frequency and
price. Please see HELP RATES 89 for new Academic Subscriber rates.
  File  65:Inside Conferences 1993-2006/Jan W3
         (c) 2006 BLDSC all rts. reserv.
  File 350:Derwent WPIX 1963-2006/UD,UM &UP=200604
         (c) 2006  Thomson Derwent
*File 350: For more current information, include File 331 in your search.
Enter HELP NEWS 331 for details.
  File 347:JAPIO Nov 1976-2005/Aug(Updated 051205)
         (c) 2005 JPO & JAPIO
  File  23:CSA Technology Research Database 1963-2006/Jan
         (c) 2006 CSA.
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Set	Items	Description
S1	2161	AU=(XIAO, S? OR XIAO S)
S2	12107	AU=(ZHAO, S? OR ZHAO S?)
S3	41266	AU=(CHEN, G? OR CHEN G?)
S4	55323	S1:S3
S5	966	S4 AND (MRI OR MAGNETIC(1W)(IMAG? OR IMAGING) OR MAGNETIC(-W)RESONAN? OR NMR OR NUCLEAR()MAGNETIC()RESONANCE OR FTNMR OR FTMRI OR MAGNETORESONANCE OR PMR OR PROTON(W)MAGNETIC(W)RESONAN? OR MR()(IMAGE? OR IMAGING))
S6	1	S5 AND (MAGNET?(2N)(SINGLE OR UNIT???? OR INTEGRAL??? OR UNITARY OR (ONE OR SINGLE)()PIECE??))
S7	965	S5 NOT S6
S8	3	S7 AND (TWO OR SECOND OR DOUBLE OR DUAL)(2N)(COLUMN? ? OR POST? ? OR SUPPORT?? OR YOKE)
S9	3	RD (unique items)
S10	962	S7 NOT S8
S11	0	S10 AND (SHIM? ? OR RING? ?)(2N)INHOMOGEN?
S12	8	S10 AND (EDDY(2N)CURRENT? ? OR VORTEX OR (ELIMINAT? OR CANCEL? OR NULLIF? OR REDUC? OR MINIM?)(2N)(VORTEX OR EDDY))
S13	3	RD (unique items)
S14	1964485	MRI OR MAGNETIC(1W)(IMAG? OR IMAGING) OR MAGNETIC(W)RESONAN? OR NMR OR NUCLEAR()MAGNETIC()RESONANCE OR FTNMR OR FTMRI OR MAGNETORESONANCE OR PMR OR PROTON(W)MAGNETIC(W)RESONAN? OR MR()(IMAGE? OR IMAGING)
S15	47038	MC=(S01-E02A2 OR S03-E07A OR S01-E02A8A OR S01-E02A1 OR S03-E07C OR S05-D02B1 OR S03-C02F1) OR IC=(G01R-003 OR G01N-024-/08 OR G01V-003/A75) OR CC=(A0758 OR A8760I OR B7510N)
S16	1979745	S14:S15
S17	85346	MAGNET?(2N)(SINGLE OR UNIT???? OR INTEGRAL??? OR UNITARY OR (ONE OR SINGLE)()PIECE??)
S18	165740	MAGNET?(2N)PERMANENT
S19	246560	S17:S18
S20	162544	(TWO OR SECOND OR DOUBLE OR DUAL)(2N)(COLUMN? ? OR POST? ? OR SUPPORT?? OR YOKE)
S21	196253	(H OR "H" OR C OR "C")(2N)(SHAPE??? OR SHAPING OR CURVE??? OR MAGNET?)
S22	14	YOKE(2N)ANNEAL?
S23	296	(SHIM? ? OR RING? ?)(2N)INHOMOGEN?
S24	3815366	PLATE? ? OR POLE? ? OR POLE? ?(2N)HEAD? ?
S25	330020	EDDY(2N)CURRENT? ? OR VORTEX OR (ELIMINAT? OR CANCEL? OR NULLIF? OR REDUC? OR MINIM?)(2N)(VORTEX OR EDDY)
S26	31	S22 OR YOKE(5N)ANNEAL?
S27	8818	S16 AND S19
S28	39	S27 AND S20
S29	3	S28 AND S21
S30	3	RD (unique items)
S31	36	S28 NOT S29
S32	0	S31 AND (S26 OR S23)
S33	18	S31 AND S24
S34	3	S33 AND S25
S35	3	RD (unique items)
S36	15	S33 NOT S34
S37	15	RD (unique items)
S38	5374	S19 AND S25
S39	1	S38 AND S26
S40	5373	S38 NOT S39
S41	1184	S40 AND S24

S42	46	S41 AND S21
S43	4	S42 AND S16
S44	4	RD (unique items)
S45	42	S42 NOT S43
S46	0	S45 AND S20
S47	32	S45 AND S18
S48	0	S47 AND S20
S49	1102	S19 AND S20
S50	518	S49 AND S24
S51	12	S50 AND S25
S52	12	RD (unique items)
S53	506	S50 NOT S51
S54	0	S53 AND S23
S55	17	S53 AND S21
S56	17	RD (unique items)
S57	1	S56 AND S16
S58	16	S56 NOT S57
S59	0	S58 AND S25
S60	16	S58

6/3,AB/1 (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE

04822457 EMBASE No: 1991317193
Computer-assisted superimposition of **magnetic resonance** and high-resolution technetium-99m-HMPAO and thallium-201 SPECT images of the brain

Holman B.L.; Zimmerman R.E.; Johnson K.A.; Carvalho P.A.; Schwartz R.B.; Loeffler J.S.; Alexander E.; Pelizzari C.A.; **Chen G.T.Y.**
Department of Radiology, Brigham and Women's Hospital, 75 Francis St.,Boston, MA 02115 United States

Journal of Nuclear Medicine (J. NUCL. MED.) (United States) 1991, 32/8 (1478-1484)
CODEN: JNMEA ISSN: 0161-5505
DOCUMENT TYPE: Journal; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

A method for registering three-dimensional CT, MR, and PET data sets that require no special patient immobilization or other precise positioning measures was adapted to high-resolution SPECT and **MRI** and was applied in 14 subjects (five normal volunteers, four patients with dementia (Alzheimer's disease), two patients with recurrent glioblastoma, and three patients with focal lesions (stroke, arachnoid cyst and head trauma)). Tinf 2-weighted axial **magnetic resonance images** and transaxial sup 9sup 9sup mTc-HMPAO and sup 2sup 0sup 1Tl images acquired with an annular gamma camera were merged using an objective registration (translation, rotation and rescaling) program. In the normal subjects and patients with dementia and focal lesions, focal areas of high uptake corresponded to gray matter structures. Focal lesions observed on **MRI** corresponded to perfusion defects on SPECT. In the patients who had undergone surgical resection of glioblastoma followed by interstitial brachytherapy, increased sup 2sup 0sup 1Tl corresponding to recurrent tumor could be localized from the superimposed images. The method was evaluated by measuring the residuals in all subjects and translational errors due to superimposition of deep structures in the 12 subjects with normal thalamic anatomy and sup 9sup 9sup mTc-HMPAO uptake. This method for superimposing **magnetic resonance** and high-resolution SPECT images of the brain is a useful technique for correlating regional function with brain anatomy.

9/3,AB/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

016872481
WPI Acc No: 2005-196763/200521
XRPX Acc No: N05-162455
Magnet for head and limb **magnetic resonance imaging** device
Patent Assignee: SHENYANG EASTSOFT WAVE SPECTRUM MAGNETIC (SHEN-N)
Inventor: **CHEN G; XIAO S; ZHAO S**
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
CN 1543913	A	20041110	CN 20031105172	A	20031125	200521	B

Priority Applications (No Type Date): CN 20031105172 A 20031125
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
CN 1543913	A			A61B-005/055	

Abstract (Basic): CN 1543913 A
Abstract (Basic):
NOVELTY - The invention relates to a magnetic body for head- limb **magnetic resonant imaging** device, which comprises an open C type rack with **two** upright **columns**, a magnetic steel material, a cartridge, an anti-spinning disk, a shimming ring adjustment sheet, a shimming ring, low-temperature heating cables and a temperature probe, wherein the anti-spinning disk employs double layer alternating de-spinning disk, the top and bottom surfaces the cartridge element are provided with the shimming ring with inclination angle and shimming ring adjustment sheet of the corresponding number.
DwgNo 0/0

9/3,AB/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

015726079
WPI Acc No: 2003-788279/200374
XRPX Acc No: N03-631629
Permanent magnet for **magnetic resonance imaging** application, has C-shaped **yoke** with **two columns**, magnetic material, pole, ring and coil
Patent Assignee: SHENYANG NEUSOFT DIGITAL MEDICAL SYSTEMS (SHEN-N); SHENYANG NEUSOFT BOPU NMR TECH CO LTD (SHEN-N)
Inventor: **CHEN G; XIAO S; ZHAO S**
Number of Countries: 103 Number of Patents: 004
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200382106	A1	20031009	WO 2003CN229	A	20030328	200374	B
AU 2003227173	A1	20031013	AU 2003227173	A	20030328	200435	
EP 1491138	A1	20041229	EP 2003714628	A	20030328	200502	
			WO 2003CN229	A	20030328		
US 20050253585	A1	20051117	WO 2003CN229	A	20030328	200576	
			US 2004509573	A	20040929		

Priority Applications (No Type Date): CN 2002U219965 U 20020401
Patent Details:

Patent No Kind Lan Pg   Main IPC   Filing Notes
WO 200382106 A1 C 12 A61B-005/055
   Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA
   CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN
   IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ
   OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN
   YU ZA ZM ZW
   Designated States (Regional): AT BE BG CH CY CZ DE DK EA EE ES FI FR GB
   GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ
   UG ZM ZW
AU 2003227173 A1   A61B-005/055 Based on patent WO 200382106
EP 1491138   A1 E   A61B-005/055 Based on patent WO 200382106
   Designated States (Regional): AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
   GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR
US 20050253585 A1   G01V-003/00

Abstract (Basic): WO 200382106 A1
Abstract (Basic):
        NOVELTY - A C-shaped **yoke** (1) with **two columns**,
    magnetic material (2), a pole (3), a disc (4) for eliminating vortex, a
    ring (5) for producing uniform magnetic field, a coil (6) exhibiting
    gradient, are included in the permanent magnet.
        USE - For **magnetic resonance imaging** application
    for medical diagnosis.
        ADVANTAGE - The magnetic characteristics is excellent.
        DESCRIPTION OF DRAWING(S) - The figure shows a sectional view of
    the permanent magnet.
        yoke (1)
        magnetic material (2)
        pole (3)
        disk (4)
        ring (5)
        coil (6)
        pp; 12 DwgNo 1/2

 9/3,AB/3   (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX

015343181
WPI Acc No: 2003-404119/200339
XRPX Acc No: N03-322191
  Permanent magnet for nuclear magnetic resonance image-forming apparatus
Patent Assignee: WUHAN PHYSICS & MATHEMATICS INST CAS (WUHA-N)
Inventor: QIU Y; **XIAO S**; ZENG F
Number of Countries: 001 Number of Patents: 001
Patent Family:
Patent No   Kind   Date   Applicat No   Kind   Date   Week
CN 1401295   A   20030312 CN 2001128381   A   20010829 200339 B

Priority Applications (No Type Date): CN 2001128381 A 20010829
Patent Details:
Patent No Kind Lan Pg   Main IPC   Filing Notes
CN 1401295   A   A61B-005/055

Abstract (Basic): CN 1401295 A
Abstract (Basic):
        NOVELTY - A permanent magnet for NMR image is characterized by that
    its two yokes are linked by two vertical columns to form a magnetic

loop, the included angle between vertical column and plate electrode is 60-180 deg, and its magnetic field intensity is 1000-3500 G. Its advantages are large open space and high image quality.

DwgNo 0/0

13/3,AB/1 (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

12886912 PMID: 10828328
Blood flow and vessel mechanics in a physiologically realistic model of a human carotid arterial bifurcation.
Zhao S Z; Xu X Y; Hughes A D; Thom S A; Stanton A V; Ariff B; Long Q
Department of Chemical Engineering & Chemical Technology, Imperial College, London, UK. s.zhao@ic.ac.uk
Journal of biomechanics (UNITED STATES) Aug 2000, 33 (8) p975-84, ISSN 0021-9290 Journal Code: 0157375
Publishing Model Print
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed
The pulsatile flow in an anatomically realistic compliant human carotid bifurcation was simulated numerically. Pressure and mass flow waveforms in the carotid arteries were obtained from an individual subject using non-invasive techniques. The geometry of the computational model was reconstructed from **magnetic resonance** angiograms. Maps of time-average wall shear stress, contours of velocity in the flow field as well as wall movement and tensile stress on the arterial wall are all presented. Inconsistent with previous findings from idealised geometry models, flow in the carotid sinus is dominated by a strong helical flow accompanied by a single secondary **vortex** motion. This type of flow is induced primarily by the asymmetry and curvature of the in vivo geometry. Flow simulations have been carried out under the rigid wall assumption and for the compliant wall, respectively. Comparison of the results demonstrates the quantitative influence of the vessel wall motion. Generally there is a reduction in the magnitude of wall shear stress, with its degree depending on location and phase of the cardiac cycle. The region of slow or reversed flow was greater, in both spatial and temporal terms in the compliant model, but the global characteristics of the flow and stress patterns remain unchanged. The analysis of mechanical stresses on the vessel surface shows a complicated stress field. Stress concentration occurs at both the anterior and posterior aspects of the proximal internal bulb. These are also regions of low wall shear stress. The comparison of computed and measured wall movement generally shows good agreement.

13/3,AB/2 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

04061287
E.I. No: EIP95022563478
Title: Reconstruction of defects from the distribution of current vector potential T using wavelets
Author: **Chen, Gangzhu**; Yoshida, Yoshikatsu; Miya, Kenzo; Kurokawa, Masaaki
Corporate Source: Univ of Tokyo, Ibaraki, Jpn
Source: International Journal of Applied Electromagnetics in Materials v 5 n 3 Oct 1994. p 189-199
Publication Year: 1994
CODEN: IAMTE7 ISSN: 0925-2096
Language: English

Abstract: In this paper, we propose a new method to reconstruct two-dimensional defects. The method is a combination of **eddy current** testing technique and the wavelet theory. In the present method, the defects are reconstructed through detecting the discontinuities of the **eddy current** field. The distribution of the current vector potential T is first determined by using the magnetic field data from **eddy current** testing; then, the T distribution is decomposed into wavelets to detect the discontinuities of the **eddy current** field. With the detected discontinuities, the shape and size of the defects can be reconstructed accurately. (Author abstract) 16 Refs.

13/3,AB/3 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

015097443
WPI Acc No: 2003-157960/200316
XRPX Acc No: N03-124637
Eddy current reducing device for **magnetic resonant imaging** equipment
Patent Assignee: WUHAN PHYSICS & MATHEMATICS INST CAS (WUHA-N)
Inventor: QIU Y; **XIAO S**; ZENG F
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
CN 1375705	A	20021023	CN 2002115759	A	20020426	200316	B

Priority Applications (No Type Date): CN 2002115759 A 20020426
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
CN 1375705	A			G01R-033/38	

Abstract (Basic): CN 1375705 A
Abstract (Basic):
NOVELTY - The **vortex-reducing** device in the **magnetic resonance imaging** equipment is characterized by that: soaking the orientationless silicon iron sheets in resin paint, then sticking them into square laminated body, sticking the laminated body on the pole shoe, using insulating material to retain insulation between the laminated bodies, between laminated body and pole shoe and between the laminated body and uniform field ring, making the laminated body into the form similar to pole shoe, and sticking second layer of insulating material and laminated body on first layer of laminated body, two layers oflaminated bodies are pperpendicular and more sticking insulating material on the second layer of laminated body. Said invention can raise dimage resolution of said imaging equipment.
DwgNo 0/0

30/3,AB/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

015726079
WPI Acc No: 2003-788279/200374
XRPX Acc No: N03-631629
Permanent magnet for **magnetic resonance imaging** application, has **C-shaped yoke** with **two columns**, magnetic material, pole, ring and coil
Patent Assignee: SHENYANG NEUSOFT DIGITAL MEDICAL SYSTEMS (SHEN-N); SHENYANG NEUSOFT BOPU NMR TECH CO LTD (SHEN-N)
Inventor: CHEN G; XIAO S; ZHAO S
Number of Countries: 103 Number of Patents: 004
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200382106	A1	20031009	WO 2003CN229	A	20030328	200374	B
AU 2003227173	A1	20031013	AU 2003227173	A	20030328	200435	
EP 1491138	A1	20041229	EP 2003714628	A	20030328	200502	
			WO 2003CN229	A	20030328		
US 20050253585	A1	20051117	WO 2003CN229	A	20030328	200576	
			US 2004509573	A	20040929		

Priority Applications (No Type Date): CN 2002U219965 U 20020401
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200382106	A1	C	12	A61B-005/055	
	Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW				
	Designated States (Regional): AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW				
AU 2003227173	A1			A61B-005/055	Based on patent WO 200382106
EP 1491138	A1	E		A61B-005/055	Based on patent WO 200382106
	Designated States (Regional): AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR				
US 20050253585	A1			G01V-003/00	

Abstract (Basic): WO 200382106 A1
Abstract (Basic):
NOVELTY - A **C-shaped yoke** (1) with **two columns**, magnetic material (2), a pole (3), a disc (4) for eliminating vortex, a ring (5) for producing uniform magnetic field, a coil (6) exhibiting gradient, are included in the **permanent magnet**.
USE - For **magnetic resonance imaging** application for medical diagnosis.
ADVANTAGE - The magnetic characteristics is excellent.
DESCRIPTION OF DRAWING(S) - The figure shows a sectional view of the **permanent magnet**.
yoke (1)
magnetic material (2)
pole (3)
disk (4)
ring (5)
coil (6)
pp; 12 DwgNo 1/2

30/3,AB/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

013585746
WPI Acc No: 2001-069953/200108
Related WPI Acc No: 1999-153330; 2000-679262; 2001-167656; 2002-556344
XRPX Acc No: N01-052863

Yoked **permanent magnetic** structure for use in medical applications, has open ferromagnetic yoke to which **permanent magnet** assemblies to provide required volume of magnetic field, are attached

Patent Assignee: ODIN TECHNOLOGIES LTD (ODIN-N)
Inventor: KATZNELSON E; ZUK Y
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 6150911	A	20001121	US 97898773	A	19970723	200108	B
			US 99266073	A	19990310		
			US 99405835	A	19990927		

Priority Applications (No Type Date): IL 120467 A 19970317; IL 118937 A 19960724
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6150911	A		27	H01F-005/00	Cont of application US 97898773 CIP of application US 99266073 Cont of patent US 5900793

Abstract (Basic): US 6150911 A
Abstract (Basic):

NOVELTY - The magnetic structure has two **permanent magnet** assemblies (40,42) with equal number of coaxial annular **permanent magnets**. **Permanent magnets** are designed to provide required volume of uniform magnetic field within region (54) between assemblies. An open U or **C-shaped** ferromagnetic **yoke** having **two** similar flat **yoke** surfaces which are spaced apart along axis of symmetry, increases magnetic field strength.

DETAILED DESCRIPTION - The **permanent magnet** assemblies (40,42) with equal number of coaxial annular **permanent magnets** comprising **magnetized** segments which are attached by non-conductive adhesive, are attached to ferromagnetic yoke at specific location with corresponding surfaces of magnet assemblies facing each other. The magnet assemblies has coaxial annular **permanent magnets** lying in suitable plane to provide uniform magnetic field within region between assemblies to allow lateral access around patient's body located between magnet assemblies. The ferromagnetic yoke is made up of ferromagnetic material selected from soft iron, iron-silicon alloy, nickel-iron alloy, iron cobalt vanadium alloy, soft ferrite. The flat yoke surfaces of ferromagnetic yoke are parallel to each other and perpendicular to axis of symmetry.

USE - For use in **magnetic resonance imaging** (**MRI**), **magnetic resonance** therapy (MRT) and interventional **magnetic resonance imaging** (IMRI).

ADVANTAGE - As adjacent **magnetized** segments of **permanent magnets** are attached by adhesive, eddy current is reduced. Improves uniformity of magnetic field by coaxial annular

permanent magnets.

DESCRIPTION OF DRAWING(S) - The figure shows the cross sectional view of **permanent magnet** assemblies.

Permanent magnet assemblies (40,42)

Region (54)

pp; 27 DwgNo 7/14

30/3,AB/3 (Item 1 from file: 347)

DIALOG(R)File 347:JAPIO

04703327

MAGNET ASSEMBLY OF **MRI** DEVICE

PUB. NO.: 07-023927 [JP 7023927 A]
PUBLISHED: January 27, 1995 (19950127)
INVENTOR(s): INOUE YUJI
SERIZAWA KATSUMI
FURUTA OSAMU
APPLICANT(s): GE YOKOGAWA MEDICAL SYST LTD [485515] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 05-171681 [JP 93171681]
FILED: July 12, 1993 (19930712)

ABSTRACT

PURPOSE: To watch a patient in a magnet assembly easily from the outside by supporting an upper and a lower base yokes facing each other through **two column** yokes, and providing **permanent magnets** in facing surfaces of the upper and a lower base yokes.

CONSTITUTION: A magnet assembly 1 is composed of a lower base yoke cover 2a, a column yoke covers 3a, 3b, and an upper base yoke cover 2b to be cylindrical. A patient placed on a table A comprising a base B and a bed slide part C s put into a cylinder of the magnet assembly 1 of an **MRI** device by moving the bed slide part **C**. A **magnetic** circuit composing part of this magnet assembly supports a lower and upper base yokes 22a, 22b through **two column** yokes 23a, 23b, and **permanent magnets** 23a, 23b are fixed to facing surfaces of both base yokes 22a, 22b, and magnetic shunt plates 29a, 29b are fixed to facing surfaces of the **permanent magnets** 28a, 28b respectively.

35/3,AB/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

015692980
WPI Acc No: 2003-755169/200371
Related WPI Acc No: 2003-199594; 2003-220249; 2003-275651; 2003-657895; 2004-387836
XRAM Acc No: C03-207184
XRPX Acc No: N03-605054

Magnet assembly for imaging apparatus, comprises layers of soft magnetic material, and body

Patent Assignee: GENERAL ELECTRIC CO (GENE)
Inventor: AMM K M; LASKARIS E T; PALMO M A; THOMPSON P S

Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20030090354	A1	20030515	US 2001824245	A	20010403	200371 B
			US 2002309139	A	20021204	

Priority Applications (No Type Date): US 2001824245 A 20010403; US 2002309139 A 20021204
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20030090354	A1		26	H01F-005/00	Div ex application US 2001824245 Div ex patent US 6518867

Abstract (Basic): US 20030090354 A1
Abstract (Basic):

NOVELTY - An imaging apparatus magnet assembly comprises at least one layer of soft magnetic material, and a body of first material for use as **permanent magnet**. The body has a first surface attached over the soft magnetic layer, and a shaped second surface designed to face an imaging volume of imaging apparatus.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(a) a **magnetic resonance imaging** system or a **magnetic imaging** system comprising a yoke having first portion, second portion and third portion connecting the first and second portions; a first magnet assembly attached to the first yoke portion; and a second magnet assembly attached to the **second yoke** portion;

(b) a method of making an imaging device by providing a support, attaching a first precursor body of first unmagnetized material to a first support portion, magnetizing the first material to form a first **permanent magnet** body, attaching a second precursor body of second unmagnetized material to a **second support** portion, and magnetizing the second material to form a second **permanent magnet** body;

(c) a method of making a magnet assembly by placing blocks of material useful as **permanent magnet** into a mold cavity having non-uniform cavity surface contour, filling the mold cavity with adhesive substance to bind the blocks into a first assembly comprising a unitary body, and removing the first assembly from the mold cavity; and

(d) a method of imaging a portion of patient's body using **magnetic resonance imaging** by detecting an image of a portion of patient's body located in a **magnetic image** resonance system, and processing the detected image.

USE - For imaging apparatus.

ADVANTAGE - **Eddy currents** are **reduced** or

eliminated by placing soft magnetic layer between the **permanent magnet** and portion of yoke. This allows formation of an imaging system without **pole** pieces. By omitting the **pole** pieces, **permanent magnet** size, weight and cost are reduced compared to those of prior art system, and the strength of magnetic field in the imaging volume is increased.

DESCRIPTION OF DRAWING(S) - The figure is a perspective view of a body for use as **permanent magnet**.

Base section (31)
Intermediate section (33)
Hollow ring section (35)
First adhesive layer (52)
Second adhesive layer (53)
pp; 26 DwgNo 3/17

35/3,AB/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

015215114
WPI Acc No: 2003-275651/200327
Related WPI Acc No: 2003-199594; 2003-220249; 2003-657895; 2003-755169; 2004-387836
XRAM Acc No: C03-072475
XRPX Acc No: N03-218895

Magnetic resonance imaging system, for use in imaging portion of patient's body, comprises layer of soft magnetic material between first yoke portion and body of first **permanent magnet** material

Patent Assignee: GENERAL ELECTRIC CO (GENE)
Inventor: AMM K M; LASKARIS E T; PALMO M A; THOMPSON P S
Number of Countries: 001 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 20020180573	A1	20021205	US 2001824245	A	20010403	200327	B
			US 2002157965	A	20020531		
US 6525634	B2	20030225	US 2001824245	A	20010403	200327	
			US 2002157965	A	20020531		

Priority Applications (No Type Date): US 2001824245 A 20010403; US 2002157965 A 20020531
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20020180573	A1		26	H01F-005/00	Div ex application US 2001824245
US 6525634	B2			H01F-001/00	Div ex application US 2001824245

Abstract (Basic): US 20020180573 A1
Abstract (Basic):

NOVELTY - A **magnetic resonance imaging** system comprising layer of soft magnetic material is located between a first yoke portion and body of first **permanent magnet** material. A third yoke portion connects the first yoke portion and a **second yoke** portion to form an imaging volume.

DETAILED DESCRIPTION - A **magnetic resonance imaging** system comprises yoke, first magnet assembly attached to first portion of the **yoke** and **second** magnet assembly attached to second portion of the yoke. The yoke further comprises a third portion for connecting the first and second portions and form an imaging volume between the two portions. A layer of soft magnetic

material is located between the first yoke portion (13) and body of first **permanent magnet** material (15). The second surface of the body of the **permanent magnet** material faces the imaging volume.

INDEPENDENT CLAIMS are also included for:

(a) a method of making an imaging device comprising providing a support comprising three portions forming an imaging volume, attaching a first precursor body comprising first unmagnetized material to the first support portion, attaching a second precursor body comprising second unmagnetized material to the **second support** portion, magnetizing the first unmagnetized material to form a first **permanent magnet** body after the step of attaching the first precursor data, and magnetizing the second unmagnetized material to form a second **permanent magnet** body after the step of attaching the second precursor body; and

(b) a method of imaging a portion of patient's body using the **magnetic resonance imaging** comprising detecting an image of a portion of a patient's body located in the system and processing the detected image.

USE - The system is useful as **magnetic resonance** therapy or **nuclear magnetic resonance** system. It is used to image a portion of patient's body.

ADVANTAGE - The system may be operated without **pole** pieces due to the presence of the soft magnetic material. It is made without **pole** pieces so reducing the weight and cost, and increasing the strength of magnetic field of imaging volume. Its manufacture does not need special robot and/or crank so decreasing the cost and increasing the simplicity of the manufacturing process. The soft magnetic material between the **permanent magnet** and a portion of the yoke **reduces** or eliminates **eddy currents**.

DESCRIPTION OF DRAWING(S) - The drawing shows a side cross-section of the **permanent magnet** assembly.

First yoke portion (13)

Permanent magnet material (15)

Hollow ring magnet (21, 23, 25)

pp; 26 DwgNo 2/17

35/3,AB/3 (Item 1 from file: 347)

04580030

MAGNETIC FIELD GENERATOR FOR **MRI**

PUB. NO.: 06-251930 [JP 6251930 A]
PUBLISHED: September 09, 1994 (19940909)
INVENTOR(s): OTA KIMIHARU
AOKI MASAAKI
TAKEUCHI HIROYUKI
TAKESHIMA HIROTAKA
APPLICANT(s): SUMITOMO SPECIAL METALS CO LTD [330335] (A Japanese Company or Corporation), JP (Japan)
HITACHI MEDICAL CORP [420143] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 05-063397 [JP 9363397]
FILED: February 25, 1993 (19930225)
JOURNAL: Section: E, Section No. 1639, Vol. 18, No. 641, Pg. 140, December 06, 1994 (19941206)

ABSTRACT

PURPOSE: To provide tha magnetic **pole** pieces of a magnetic field generator for **MRI** , which consists of a constitutions, wherein the generation of an **eddy current** is **reduced** without reducing the degree of uniformity of a magnetic field in a gap and the inclined magnetic field can rise in a prescribed intensity in a short timne, and a constitution, wherein a retentive phenomenon is reduced and a distinct image can be obtained.

CONSTITUTION: **Two** sheets of **yoke plates** 1 and 1 are arranged in opposition to each other by four pillar shaped yokes 2, discal **permanent magnet** constitutional bodies 3 and 3 are respectively provided contactingly on the centers of the opposed surfaces of the yokes 1 and 1, magnetic **pole** pieces 4 and 4 provided contactingly on the gap opposed surfaces of the constitutional bodies 3 and 3 are respectively arranged on protrusions 6 provided on the peripheral edges of discal base materials 5 consisting of iron or the like, the protrusions 6 and surface layer parts 7 in the vicinities of the protrusions 6 are formed of a silicon steel **plate** or a soft ferrite and a central protrusion part 8, most of which consists of a flat protrusion and which is made of a soft ferrite, is provided on the central part of each discal base material 5. Thereby, a magnetic field in a gap 9 is made uniform and even if an inclined magnetic field coil in energized with a GC pulsed **current**, an **eddy current** , which is generated in the vicinities of the protrusion parts 6 on the peripheral edges of the materials 5, is reduced and a distinct sectional image is obtained.

37/3,AB/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

016969376
WPI Acc No: 2005-293689/200530
XRAM Acc No: C05-090754
XRPX Acc No: N05-241049

Composition of matter for use as **permanent magnet**, comprises rare earth-transition metal-boron alloy containing praseodymium, iron and oxygen

Patent Assignee: GENERAL ELECTRIC CO (GENE)
Inventor: BENZ M G; MARTE J S; SHEI J C

Number of Countries: 003 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 20050062572	A1	20050324	US 2003666697	A	20030922	200530	B
JP 2005105415	A	20050421	JP 2004273033	A	20040921	200530	
CN 1601660	A	20050330	CN 200482490	A	20040922	200547	

Priority Applications (No Type Date): US 2003666697 A 20030922
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20050062572	A1		15	H01F-005/00	
JP 2005105415	A		17	C22C-038/00	
CN 1601660	A			H01F-001/053	

Abstract (Basic): US 20050062572 A1
Abstract (Basic):

NOVELTY - A composition of matter for use as a **permanent magnet**, comprises a rare earth-transition metal-boron alloy. At least 30 wt.% of the rare earth content of the alloy comprises praseodymium. At least 50 wt.% of the transition metal content of the alloy comprises iron. The alloy contains oxygen (less than 0.6 wt.%).

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a **magnetic resonance imaging** (**MRI**) system, comprising a yoke and **permanent magnet**(s) having the above composition attached to the yoke;

(2) a method of making an **MRI** device, comprising providing a yoke comprising a first portion, a second portion and a third portion(s) connecting the first and the second portions such that an imaging volume is formed between the first and the **second yoke** portions; attaching a first precursor body to the first yoke portion; attaching a second precursor body to the **second yoke** portion; magnetizing the first precursor body to form a first **permanent magnet** body after the step of attaching the first precursor body; and magnetizing the second precursor body to form a second **permanent magnet** body after the step of attaching the second precursor body, where the first and second precursor bodies comprise the rare earth-transition metal-boron alloy as above;

(3) a method of making a **permanent magnet**, comprising providing a rare earth-transition metal-boron alloy precursor powder; compressing the precursor powder into a green body while applying a magnetic field; compacting and sintering the green body to form a sintered intermetallic block; and magnetizing the sintered intermetallic block to form a **permanent magnet** block comprising the rare earth-transition metal-boron alloy as above; and

(4) a method of making a motor or a generator device, comprising providing a motor or a generator device; attaching a first precursor

body comprising unmagnetized alloy block(s) (1) to the device; and magnetizing the unmagnetized alloy block to form the first **permanent magnet** body after the step of attaching the first precursor body.

USE - For use as a **permanent magnet**.

ADVANTAGE - The composition has a high corrosion resistance when the rare earth-transition metal-boron **permanent magnet** alloys have a rich praseodymium content and a low-oxygen content below 0.6 wt.%. This praseodymium-rich **permanent magnet** alloy exhibits acceptable remanence, coercivity and energy products for use in the **MRI** system and in other applications while remaining highly resistant to corrosion/oxidation under ambient conditions for long periods of time, thus increasing the alloy's usable shelf life. The praseodymium-rich, low oxygen content **permanent magnet** alloy is capable of remaining corrosion free for greater than or equal to 4 years at atmospheric ambient in an uncoated state.

DESCRIPTION OF DRAWING(S) - The figure is a perspective view of a **permanent magnet** body.

Unmagnetized alloy blocks (1)
First **permanent magnet** body (7)
Base section (11)
Cavity (17)
Opening (19)
pp; 15 DwgNo 4/9

37/3,AB/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

015595740
WPI Acc No: 2003-657895/200362
Related WPI Acc No: 2003-199594; 2003-220249; 2003-275651; 2003-755169; 2004-387836
XRAM Acc No: C03-179640
XRPX Acc No: N03-524251

Magnetic resonance imaging magnet assembly for imaging apparatus comprises body of first material for use as **permanent magnet** having first surface attached over layer of magnetic material and shaped second surface

Patent Assignee: GENERAL ELECTRIC CO (GENE)
Inventor: AMM K M; LASKARIS E T; PALMO M A; THOMPSON P S
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20030085787	A1	20030508	US 2001824245	A	20010403	200362 B
			US 2002309146	A	20021204	

Priority Applications (No Type Date): US 2001824245 A 20010403; US 2002309146 A 20021204
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20030085787	A1		26	H01F-005/00	Div ex application US 2001824245 Div ex patent US 6518867

Abstract (Basic): US 20030085787 A1
Abstract (Basic):

NOVELTY - A **magnetic resonance imaging** magnet assembly for an imaging apparatus comprises at least one layer of soft magnetic material; and a body of a first material for use as a

permanent magnet having a first surface and a shaped second surface, where the first surface is attached over the layer of magnetic material and the second surface is adapted to face an imaging volume of the imaging apparatus.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) making an imaging device comprising attaching a first precursor body comprising a first unmagnetized material to a first support portion comprising first and second portions and at least a third portion connecting the first and second portions such that an imaging volume is formed between the first and second portions; attaching a second precursor body comprising a second unmagnetized material to the **second support** portion; magnetizing the first unmagnetized material to form a first **permanent magnet** body after attaching the first precursor body; and magnetizing the second unmagnetized material to form a second **permanent magnet** body after attaching the second precursor body; and

(2) making a magnet assembly comprising placing blocks (54) of material for use as a **permanent magnet** into a mold cavity having a non-uniform cavity surface contour; filling the mold cavity with an adhesive substance (52, 53) to bind blocks into a first assembly comprising a unitary body, such that a first surface of the unitary body forms an inverse contour of the non-uniform mold cavity surface; and removing the first assembly from the mold cavity.

USE - Used for an imaging apparatus.

ADVANTAGE - The assembly allows the imaging system, e.g. **MRI** system, to be made without **pole** pieces. By omitting the **pole** pieces, the **permanent magnet** size, weight and cost may be reduced without a corresponding reduction in the strength of the magnetic field in the imaging volume.

DESCRIPTION OF DRAWING(S) - The figure is a perspective view of a body for use as a **permanent magnet**.

First and second surfaces (17, 19)
Base section (31)
Hollow ring section (35)
Adhesive substance (52, 53)
Blocks (54)
pp; 26 DwgNo 3/17

37/3,AB/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX

015343181
WPI Acc No: 2003-404119/200339
XRPX Acc No: N03-322191
Permanent magnet for **nuclear magnetic resonance image**-forming apparatus
Patent Assignee: WUHAN PHYSICS & MATHEMATICS INST CAS (WUHA-N)
Inventor: QIU Y; XIAO S; ZENG F
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
CN 1401295	A	20030312	CN 2001128381	A	20010829	200339	B

Priority Applications (No Type Date): CN 2001128381 A 20010829
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
CN 1401295	A			A61B-005/055	

Abstract (Basic): CN 1401295 A
Abstract (Basic):
NOVELTY - A **permanent magnet** for **NMR** image is characterized by that its two yokes are linked by **two** vertical **columns** to form a magnetic loop, the included angle between vertical column and **plate** electrode is 60-180 deg, and its magnetic field intensity is 1000-3500 G. Its advantages are large open space and high image quality.
DwgNo 0/0

37/3,AB/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012773114
WPI Acc No: 1999-579341/199949
Related WPI Acc No: 2000-530514
XRPX Acc No: N99-427663
Permanent magnet reluctor structure for circulators, isolators, klystrons
Patent Assignee: US SEC OF ARMY (USSA)
Inventor: LEUPOLD H A; TAUBER A
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 5949316	A	19990907	US 95518873	A	19950824	199949	B

Priority Applications (No Type Date): US 95518873 A 19950824
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5949316	A		18	H01F-001/00	

Abstract (Basic): US 5949316 A
Abstract (Basic):
NOVELTY - The reluctor (184) inserted within the reluctor space (177), comprises stacked iron disks (185) and type I superconductor disks (186) alternately. The reluctivity is controlled, corresponding to the relation of magnetic permeability with that of air.
DETAILED DESCRIPTION - The iron **yoke** (170) has **two** opposing U-shaped bodies (171,172), each having upper arms (180,181) and lower arms (182,183), respectively. The U-shaped bodies (171,172) forms magnetic flux sources (173,174) at one end, such that magnetic **poles**, magnetic flux path, working space (176) located between upper arms and reluctor space (177) located between lower arms are formed. The left and right ends (187,188) of reluctor contact the lower arms (182,183) respectively. An INDEPENDENT CLAIM is also included for magnetic reluctance varying method.
USE - For electron beam guidance in mm/microwave tubes for dc biasing fields in millimeter wave filters, circulators, isolators, strip lines for field sources in **nuclear magnetic resonance images**, extended interaction amplifiers, klystrons, traveling wave tubes, magnetrons etc.
ADVANTAGE - Based on the reluctor which has stacked iron disks and type I superconducting material, the permeability and reluctance of magnetic structure can be increased or decreased.
DESCRIPTION OF DRAWING(S) - The figure shows the side view of variable magnetic reluctor structure.
Iron yoke (170)

U-shaped bodies (171,172)
Magnetic flux sources (173,174)
Working space (176)
Reluctor space (177)
Upper arms (180,181)
Lower arms (182,183)
pp; 18 DwgNo 7A/8

37/3,AB/5 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012523044
WPI Acc No: 1999-329150/199928
XRPX Acc No: N99-247036
Auxiliary magnetic structures for linearizing **permanent magnet** in **NMR**
Patent Assignee: ESAOTE SPA (ESAO-N)
Inventor: BIGLIERI E; COSCIA G; SANFILIPPO C; TREQUATTRINI A
Number of Countries: 026 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 921408	A1	19990609	EP 98113342	A	19980717	199928	B
US 6191584	B1	20010220	US 98199811	A	19981125	200112	
IT 1298022	B	19991220	IT 97SV48	A	19971205	200173	

Priority Applications (No Type Date): IT 97SV48 A 19971205
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 921408	A1	E	25	G01R-033/383	
Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
US 6191584	B1			G01V-003/00	
IT 1298022	B			G01R-033/00	

Abstract (Basic): EP 921408 A1
Abstract (Basic):
NOVELTY - The **nuclear magnetic resonance imaging** system uses large and powerful **permanent magnets** to create a measurement field. The magnet has a yoke (1) with main **poles** (2) on parallel parts of the **yoke** (201,301). **Two** parallel auxiliary **poles** (3) are added near the open end (101) of the magnet. These **poles** either use a separate stronger magnet (103), or have an additional magnet (4) to increase the magnetic potential across the open end of the magnet.
USE - As a **permanent magnet** for **nuclear magnetic resonance** system.
ADVANTAGE - By adding stronger magnets at open ends the field is linearized hence larger areas or smaller devices can be used.
DESCRIPTION OF DRAWING(S) - The drawing shows a partially sectional view of a 3D magnet, having the shape of a rectangular parallelepiped, with one open side.
Main yoke (1)
Main **poles** (2)
Auxiliary **poles** (3)
Additional magnets (103)
pp; 25 DwgNo 1/17

37/3,AB/6 (Item 6 from file: 350)
DIALOG(R)File 350:Derwent WPIX

011894689
WPI Acc No: 1998-311599/199827
Related WPI Acc No: 1997-371706; 2000-160398; 2000-204430; 2000-422425; 2001-111799; 2001-181226; 2001-289436; 2001-353114; 2001-564017; 2001-615238; 2001-615474; 2002-146605; 2002-224912; 2002-433618; 2002-442472; 2002-565450; 2002-588656; 2002-705090; 2003-038211; 2003-038364; 2003-089705; 2003-246999; 2003-287573; 2003-327894; 2003-352068; 2003-415731; 2003-531102; 2003-708020; 2003-742732; 2003-895405; 2005-210002
XRPX Acc No: N98-244251
Ferromagnetic yoke assembly in medical **magnetic resonance** field - includes four ferromagnetic columns they are configured to maintain magnetic field within columns approximately constant in every cross section of columns and to maximise access to magnet gap
Patent Assignee: FONAR CORP (FONA-N)
Inventor: DANBY G T; HSIEH H; JACKSON J W
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 5754085	A	19980519	US 92952810	A	19920928	199827	B

Priority Applications (No Type Date): US 92952810 A 19920928
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5754085	A		13	G01V-003/00	

Abstract (Basic): US 5754085 A
The assembly includes ferromagnetic yoke over which a pair of ferromagnetic **pole** pieces in their respective positions facing each other. Four ferromagnetic columns are extended between upper support (13) and lower support (14) which are mutually connected, comprising magnetic flux return path. The four magnetic columns approximately equispaced circumferentially around the magnet central axis with a predetermined gap between them.
The **two columns** are configured with suitable cross sections
maintaining an approximately constant magnetic field along the length of the columns, with maximum radial dimension and minimum circumferential dimension are provided midway between upper and lower **supports**. Another **two columns** are configured such that they are shorter in the circumferential dimension along the length of the adjacent columns for maximising the distance between the adjacent columns provided between the **two supports**, so as to facilitate insertion and removal of patient in the magnet gap (15). A **magnetic** field generation **unit** generates **magnetic** field between the pair of **poles**.
ADVANTAGE - Simplifies structure. Suppresses magnetic leakage thereby increases homogeneity of magnetic field.
Dwg.2/7

37/3,AB/7 (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010617406
WPI Acc No: 1996-114359/199612

XRAM Acc No: C96-036067
XRPX Acc No: N96-095733
Device to detect metal particles, e.g. in food - using magnetic effects, in frame device, to prevent flux leakage
Patent Assignee: ANRITSU KK (LANP)
Number of Countries: 001 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 96016703	B2	19960221	JP 89322191	A	19891212	199612	B
JP 3181879	A	19910807	JP 89322191	A	19891212	199612	

Priority Applications (No Type Date): JP 89322191 A 19891212
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 96016703	B2		5	G01V-003/10	Based on patent JP 3181879
JP 3181879	A			G01V-003/10	

Abstract (Basic): JP 96016703 B

The device has a frame with a hollow interior for the object to be inspected; and two receiving coils that output signals corresp. to the change in magnetism in flat portions with hollow cores along the hollow interior of the frame, forming a passage that the objects pass through.

Two magnetic **poles** of opposite polarity are formed by a **permanent magnet** and a **yoke**. The **two poles** are at the vertical to the boundaries line of the receiving coils, and are at the gap between the magnetic core and the receiving coil boundary line. One side of the magnetic circuit is narrower than the other.

The object to be inspected causes a change in the receiving coils as the object is taken past on a conveyor through the frame, which has a magnetic seal.

USE - The object to be tested is a foodstuff such as a sausage, ice cream, in a non-ferrous package.

ADVANTAGE - The reliability is increased because flux leakage is reduced

37/3,AB/8 (Item 8 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010254110
WPI Acc No: 1995-155365/199520
XRPX Acc No: N95-122323
Integral variable reluctance speed sensor - has core supporting ferrous metal **pole** piece and **permanent magnet** located within tubular housing for measuring speed of rotating object
Patent Assignee: KELSEY-HAYES CO (KELS)
Inventor: HAMMERLE M K
Number of Countries: 059 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9510055	A1	19950413	WO 94US11318	A	19941005	199520	B
AU 9479677	A	19950501	AU 9479677	A	19941005	199532	
US 5486758	A	19960123	US 93132737	A	19931006	199610	
			US 95374401	A	19950117		

Priority Applications (No Type Date): US 93132737 A 19931006; US 95374401 A 19950117
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9510055	A1	E	29	G01V-003/08	
Designated States (National): AM AU BB BG BR BY CA CN CZ EE FI GE HU JP KG KP KR KZ LK LR LT LV MD MG MN NO NZ PL RO RU SI SK TJ TT UA UZ VN					
Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT KE LU MC MW NL OA PT SD SE SZ					
AU 9479677	A			G01V-003/08	Based on patent WO 9510055
US 5486758	A		14	G01P-003/48	Cont of application US 93132737

Abstract (Basic): WO 9510055 A

The variable reluctance magnetic transducer (10) includes a tubular housing (20) having a closed end and an open end. A bracket is attached to the outside of the housing at a predetermined distance from the closed end.

A core (36) supporting a ferrous metal **pole** piece (38) and a **permanent magnet** (43) is located within the housing with an end **pole** piece contacting the inside of the closed end of the housing to accurately position the **pole** piece end relative to the bracket. The core supports a pair of fork terminals which engage arcuate blade terminals carried by a cap assembly.

USE/ADVANTAGE - Sensing speed of rotating object, e.g. gear, wheel or bearing. Blade terminals allow positioning of cap assembly at a number of angles relative to core and housing.

Dwg.1/12

Abstract (Equivalent): US 5486758 A

A variable reluctance magnetic transducer comprising:

a **pole** piece having first and second ends;

a core having a first end portion formed about said **pole** piece, said **pole** piece extending through said first end portion, said core also having an intermediate portion adjacent to said first end portion, said intermediate portion including a chamber formed therein, said second end of said **pole** piece forming one end of said chamber, said chamber including an opening formed through the side of said intermediate portion, said opening adapted to receive a magnet, said intermediate portion also including means for retaining a magnet within said chamber, said core further having a second end portion adjacent to said intermediate portion and opposite from said first end portion;

a **permanent magnet** retained in said chamber, said magnet having an end contacting said second end of said **pole** piece;

a pair of electrical connectors **supported** by said **second** end portion of said core;

a coil wound about said core first end portion;

means for electrically connecting said coil to said electrical connectors;

a tubular housing having a closed first end and an open second end, said closed first end forming an inside surface, said housing receiving said core with said first end of said **pole** piece contacting said inside surface of said closed end and said second end of said core being contained within said housing; and

a bracket secured to said housing a predetermined distance from said closed end of said housing, said bracket having an aperture formed therethrough, said aperture adapted to receive a fastener.

Dwg.1/12

37/3,AB/9 (Item 9 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010035579
WPI Acc No: 1994-303292/199437
XRPX Acc No: N94-238313
Permanent magnet structure for use in **NMR** imaging techniques - includes four **plate**-shaped magnets attached to linking **plates**, with surrounding frame of magnetically permeable material
Patent Assignee: COMMISSARIAT ENERGIE ATOMIQUE (COMS)
Inventor: CHAILLOUT J; LOCATELLI M
Number of Countries: 004 Number of Patents: 005
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9420971	A1	19940915	WO 94FR257	A	19940308	199437 B
FR 2702592	A1	19940916	FR 932700	A	19930309	199437
EP 688462	A1	19951227	EP 94909166	A	19940308	199605
			WO 94FR257	A	19940308	
EP 688462	B1	19961127	EP 94909166	A	19940308	199701
			WO 94FR257	A	19940308	
DE 69401003	E	19970109	DE 601003	A	19940308	199707
			EP 94909166	A	19940308	
			WO 94FR257	A	19940308	

Priority Applications (No Type Date): FR 932700 A 19930309
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9420971	A1	F	18	H01F-007/02	
EP 688462	A1	F	18	H01F-007/02	Based on patent WO 9420971
EP 688462	B1	F	9	G01R-033/38	Based on patent WO 9420971
Designated States (Regional): DE GB IT					
DE 69401003	E			G01R-033/38	Based on patent EP 688462
					Based on patent WO 9420971
FR 2702592	A1			H01F-007/02	

Abstract (Basic): WO 9420971 A

The **permanent magnet** structure includes a parallelepiped arrangement of two opposite supporting side walls, and four elongate parallelepiped **plate**-like magnets (28,30,32,34). The magnets each interconnect upper and lower ends of the side walls in pairs, via two magnetic permeable horizontal plane **plates** (2,4) which extend between the facing surfaces to form an air gap.

Both magnets of each **plate** contact the **plate** with ends of the same polarity, the polarity being reversed between one **plate** and the next. A frame (26) made of magnetically permeable material interconnects in pairs the four ends of both side walls with their upper and lower portions.

ADVANTAGE - Structure provides high magnetic efficiency, low leakage, **permanent magnet** particularly suitable for **nuclear magnetic resonance** equipment.

Dwg.8a/10

Abstract (Equivalent): EP 688462 B

Permanent-magnetic structure with high magnetic efficiency and with low leakage, especially for **nuclear magnetic resonance** installations, of general parallelepipedic arrangement, comprising two magnetically permeable plane and horizontal **plates** (2, 4) arranged opposite one another so as to form the flux gap of the structure, four parallelepipedic magnets (28, 30, 2, 34) intended to generate uniform magnetic induction in the flux gap, and a yoke (26) for closing the magnetic circuit, the magnets, yoke and **plates** being connected so as to form a closed magnetic circuit, with the exception of the flux gap, characterized in that each magnet is in the form of an elongate parallelepipedic and

each of the said magnets, arranged parallel to one another, making a connection between one side of a **plate** and an adjacent lateral wall of the **yoke**, the **two** magnets of the same **plate** being in contact with this **plate** via their **poles** of identical polarity and each being in contact with a wall of the yoke via their other **poles**, this arrangement of the polarities being reversed from one **plate** to the other, the yoke comprising, furthermore, extensions making the connection between the **poles** of the magnets of the same **plate** which are in contact with the said walls.

(Dwg.1/10

37/3,AB/10 (Item 10 from file: 350)
DIALOG(R)File 350:Derwent WPIX

009505055
WPI Acc No: 1993-198591/199325
XRPX Acc No: N93-152812

Assembly for producing magnetic field between two magnetic discs - has pair of magnetic trimming discs to regulate magnetic field and produce uniformity and prevent saturation of yoke

Patent Assignee: SHINETSU CHEM CO LTD (SHIE); SHINETSU CHEM IND CO LTD (SHIE)
Inventor: KOBAYASHI N; MIYATA K; OHASHI K
Number of Countries: 005 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 547573	A1	19930623	EP 92121384	A	19921216	199325	B
JP 5166625	A	19930702	JP 91353211	A	19911217	199331	
US 5291171	A	19940301	US 92991225	A	19921216	199409	

Priority Applications (No Type Date): JP 91353211 A 19911217
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 547573	A1	E	7	G01R-033/38	
Designated States (Regional): DE FR GB					
US 5291171	A		7	H01F-007/02	
JP 5166625	A			H01F-007/02	

Abstract (Basic): EP 547573 A

The appts. comprises a yoke (12) and a pair of magnet discs (14,16) each of which is magnetised in the direction of thickness, and fixed to the bottom face of the upper **plate** part (12a) and top face of the lower **plate** part (12b) respectively, and arranged opposite to each other. Magnetic trimming discs (18,20) of soft iron are attached to the north **pole** and south **pole** faces of the magnet discs respectively.

In operation, magnetic lines of force produced by the disc 14 extend to the disc 16 and enter the bottom **plate** (12b) to flow upward through the four pillars (12c,12d,12e,12f) to enter the top **plate** (12a). The total cross-sectional area of magnetic path (22) is equal to the sum of the cross-sectional areas of the individual pillars, and can thus be regulated so that the yoke becomes fairly small in size and can be prevented from saturating.

USE/ADVANTAGE - Suitable for **magnetic resonance imaging** appts. Reduces size and weight of yoke without detriment to uniformity of magnetic field.

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Dwg.1/3

Abstract (Equivalent): US 5291171 A

The appts. produces a magnetic field in a space between two oppositely arranged **permanent magnet** discs. The cross-sectional area of the whole magnetic path in the yoke, (Ay) is regulated so that the following equation holds:

Ay=1/amultiplied byAmBm/Bys,

where Am is the cross-sectional area of magnetic path in each **permanent magnet** disc, Bm is the magnetic flux density in each **permanent magnet** disc at normal temperature, Bys is the saturation magnetic flux density of the yoke at normal temperature, and a is a coefficient the value of which is not larger than 1 and not smaller than 0.6.

ADVANTAGE - Enables reduction in size and weight of **yoke** connecting **two permanent magnet** discs without causing magnetic saturation of yoke.

Dwg.1/3

37/3,AB/11 (Item 11 from file: 350)

DIALOG(R)File 350:Derwent WPIX

008490387

WPI Acc No: 1990-377387/199051

XRPX Acc No: N90-287635

Magnetic field generator for ESR system - has two **permanent magnets** attached to **two** arms of **yoke** with field between them continuously variable

Patent Assignee: SUMITOMO SPECIAL METALS CO LTD (SUMS)

Inventor: KOBAYASHI T; KONISHI K; NAKANISHI A; KOBAYASHI T Y; KONISHI J K Y ; NAKANISHI A Y

Number of Countries: 007 Number of Patents: 007

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 402548	A	19901219	EP 89311260	A	19891031	199051	B
JP 3018782	A	19910128				199110	
JP 3081679	A	19910408	JP 89218233	A	19890824	199120	
US 5097240	A	19920317	US 89422751	A	19891006	199214	
EP 402548	B1	19940601	EP 89311260	A	19891031	199421	
KR 9303302	B1	19930424	KR 8916062	A	19891107	199421	
DE 68915751	E	19940707	DE 615751	A	19891031	199427	
			EP 89311260	A	19891031		

Priority Applications (No Type Date): JP 89218233 A 19890824; JP 89154875 A 19890616

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 402548	A				
Designated States (Regional): DE FR GB NL					
US 5097240	A		15		
EP 402548	B1	E	20	H01F-007/02	
Designated States (Regional): DE FR GB NL					
DE 68915751	E			H01F-007/02	Based on patent EP 402548
KR 9303302	B1			G01V-003/00	

Abstract (Basic): EP 402548 A

The ESR device comprises of three adjusters with screw threads designated coarse (10), medium (11) and fine (12). A magnetic path is provided from **permanent magnet** assembly (3a,4a) through the test gap (2), then through **permanent magnet** assembly

(46,36) (in opposition to (3a,4a)) along member (16) through fixed joke (8), then through the variable air gap (9) to variable yoke (10) and finally along member (1a) to close the magnetic path at (3a,4a).

An object is placed in test gap (2) and adjuster (10) varied so that the magnetic field intensity changes, the characteristics of this changing field are measured by a detector which is not described. The method dicsribed above only provider coarse variation of the magnetic field however the diagram shows two further adjusters to control the change in magnetic path intensity more precisely. (20pp Dwg.No.2/15

Abstract (Equivalent): EP 402548 B

A magnetic field generating device for an electron spin resonance system in which two **permanent magnets** (3a, 3b) are attached to **two yoke** arms (1a, 1b) so that said magnets (3a, 3b) are in opposed spaced relationship and means is provided for continuously varying the magnetic field intensity in the main flux gap (2) located between said magnets (3a, 3b), said means comprising a movable yoke member (6,10,20a) mounted on one yoke arm (1a) and movable towards and away from the other yoke arm (1b) to leave a continuously variable first auxiliary flux gap (9) between a **pole** of said movable yoke member (6,10,20a) and said other yoke arm (1b) or between said **pole** of said movable yoke member (6,10,20a) and a **pole** of an opposing yoke member (8,20b) mounted on a said other yoke arm (1b), characterised in that said means further comprises (i) an induction coil (50) placed around said movable yoke member (6,10,20a) and/or (ii) at least one additional movable yoke member (7,11,12,21a,22a) said at least one additional movable yoke member providing either a) a second auxiliary air gap, which is variable independently from the first auxiliary air gap, and which is between a **pole** of the additional movable yoke member (11,12) and said other yoke arm (1b) or between said **pole** of said at least one additional movable yoke member (11,12) and a **pole** of the at least one additional opposing yoke member (8) which is mounted on said other yoke arm (1b), or b) said at least one additional movable yoke member (7,21a,22a) which is variable independently being placed within said movable yoke member (6,10,20a) and being movable with respect thereto.

(Dwg.1/11

Abstract (Equivalent): US 5097240 A

Pair of **permanent magnets** are respectively attached to opposing surfaces of a pair of stationary yokes arranged in opposite and spaced apart relationship with each other. A continuously varying magnetic field is caused to generate in a space between the opposing **permanent magnets**. A number of movable yokes continuously change the distance between the stationary yokes and are arranged to at least one of the pair of stationary yokes so that they are moved individually thereby enabling the magnetic resistance of a magnetic path formed by the **permanent magnets**, stationary yokes and movable yokes to vary continuously. The device of this invention can vary the magnetic field intensity continuously and finely at high accuracy and can be used at a reduced cost and size with improved operationability in ESR system. USE/ADVANTAGE - In a magnetic field generating device for an ESR system.

(15pp

37/3,AB/12 (Item 12 from file: 350)

007637353

WPI Acc No: 1988-271285/198838

XRPX Acc No: N88-205984

Permanent magnet system giving strong concentrated field - provides magnets and **pole** pieces on opposite sides of rectangular yoke with same sense of field, whilst end magnets oppose

Patent Assignee: COMMISSARIAT ENERGIE ATOMIQUE (COMS); CHAILLOUT J (CHAI-I)

Inventor: CHAILLOUT J; JEANDEY C; TOURNIER E; CHAILLOUT J J

Number of Countries: 012 Number of Patents: 007

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 8806798	A	19880907	WO 88FR116	A	19880302	198838	B
FR 2611975	A	19880909				198843	
EP 307432	A	19890322	EP 88902491	A	19880302	198912	
JP 1502632	W	19890907	JP 88502444	A	19880302	198942	
US 4937545	A	19900626	US 88295218	A	19881101	199028	
EP 307432	B1	19921021	EP 88902491	A	19880302	199243	
			WO 88FR116	A	19880302		
DE 3875435	G	19921126	DE 3875435	A	19880302	199249	
			EP 88902491	A	19880302		
			WO 88FR116	A	19880302		

Priority Applications (No Type Date): FR 872851 A 19870303

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 8806798	A	F	17		
Designated States (National): JP US					
Designated States (Regional): AT BE CH DE FR GB IT LU NL SE					
EP 307432	A	F			
Designated States (Regional): DE GB IT NL					
EP 307432	B1	F	7	H01F-007/02	Based on patent WO 8806798
Designated States (Regional): DE GB IT NL					
DE 3875435	G			H01F-007/02	Based on patent EP 307432
					Based on patent WO 8806798

Abstract (Basic): WO 8806798 A

A rectangular yoke (3) of ferromagnetic material carries a bar magnet (1,1') within on each of its longer sides (21,21'), arranged so that their fields act in the same sense and their lines of force pass directly across the magnetic gap (5) between them. Each magnet has a **pole** piece (2,2') of shorter dimensions mounted on its long inner face. Two further magnets (6,6') are positioned between the ends of the first pair, with their fields in inverse sense to those of the latter and with air gaps at top and bottom.

Positioning is effected by two sets of screws (15, 15'; 16,16'), fitted in the sides and ends of the yoke, so that both magnets overlap the **pole** pieces of the first pair. The effect of the further magnets is to concentrate the fields of the principal pair within the magnetic gap (5).

USE/ADVANTAGE - Concentrated field required for tomography is obtained by **permanent magnets** alone, avoiding mechanical and electrical complications as well as heat dissipation.

Abstract (Equivalent): EP 307432 B

System of **permanent magnets** having a permeable magnetic yoke (3) formed by **two** opposite **support** walls (21, 21') and connected by two connecting walls (22, 22'), two main **permanent magnets** (1, 1') of the same magnetization direction disposed on the support walls (21, 21') within the yoke (3) and whereof the facing surfaces (20, 20') carry opposite **poles**, two permeable magnetic **plates** (2, 2') on the facing surfaces (20, 20') and which define an air gap (5) and two lateral **permanent magnets** (6, 6')

whose magnetization direction is opposite to that of the main **permanent magnets** (1, 1') and which also define the air gap (5), being positioned facing the connecting walls (22, 22') and within the yoke (3), characterised in that the lateral **permanent magnets** (6, 6') extend laterally between the permeable magnetic **plates** (2, 2'), so as to be positioned facing the lateral edges of the main **permanent magnets** (1, 1') and the permeable magnetic **plates** (2, 2') and that the main **permanent magnets** (1, 1') project over **plates** (2, 2').

(Dwg.1/3

Abstract (Equivalent): US 4937545 A

The system of **permanent magnets** has a permeable magnetic yoke (3) formed by **two** opposite **support** walls (21,21') and connected by two connecting walls (22,22').

Two main **permanent magnets** (1,1') of the same magnetisation direction are disposed on the support walls (21,21') within the yoke (3).

The facing surfaces (20,20') carry opposite **poles**.

Two permeable magnetic **plates** (2,2') are provided on the facing surfaces (20,20') and define an air gap (5).

Two lateral **permanent magnets** (6,6') are provided with magnetisation direction which is opposite to that of the main **permanent magnets** (1,1') and which also define the air gap (5). The magnets are positioned facing the connecting walls (22,22') and within the yoke (3). The lateral **permanent magnets** (6,6') extend laterally between the permeable magnetic **plates** (2,2') so as to be positioned facing the lateral edges of the main **permanent magnets** (1,1') and the permeable magnetic **plates** (2,2'). USE - For **MRI** or tomography.

(5pp

37/3,AB/13 (Item 13 from file: 350)

DIALOG(R)File 350:Derwent WPIX

001268006

WPI Acc No: 1975-F1902W/197520

Mixer in the form of an H.F. band-pass filter - has a housing with two soft iron **pole plates** and two **permanent magnets** between them

Patent Assignee: PHILIPS GMBH (PHIG)

Number of Countries: 007 Number of Patents: 007

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DE 2354262	A	19750507				197520	B
NL 7414041	A	19750502				197520	
FR 2249487	A	19750627				197533	
US 3947782	A	19760330				197615	
GB 1477350	A	19770622				197725	
IT 1024696	B	19780720				197839	
CA 1050120	A	19790306				197912	

Priority Applications (No Type Date): DE 2354262 A 19731030

Abstract (Basic): DE 2354262 A

The magnets are perpendicular to the **pole plates** and connect them. This arrangement forms two coupling chambers in a block between the **pole plates** with corresponding bushings for conductors to be coupled. A ferromagnetic coupler is in each of the

coupling chambers. They are so magnetically biased by the field generated by the **permanent** magnets, that **magnetic resonance** appears at the required pass frequency. A coupling conductor connects the chambers at right angles to the magnetic field. Its one ends are attached to a micro-stripline, in turn mounted on a corresponding support, and form the inner conductor. The outer conductor consists of an electrode forming the housing side wall. Micro-strip-lines on the first electrode support carry the i.f., and consist of a conductor pair coupled with a loop of a coupling conductor. An additional conductor is connected at one conductor middle, leading to a second micro stripline mounted through a **support** on a **second** electrode forming the housing opposite wall. It carries the oscillator frequency.

37/3,AB/14 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO

06842787
STATIC MAGNETIC FIELD GENERATING DEVICE AND **MAGNETIC RESONANCE IMAGING** INSTRUMENT USING THE SAME

PUB. NO.: 2001-070284 [JP 2001070284 A]
PUBLISHED: March 21, 2001 (20010321)
INVENTOR(s): YOSHINO HITOSHI
APPLICANT(s): HITACHI MEDICAL CORP
APPL. NO.: 11-255847 [JP 99255847]
FILED: September 09, 1999 (19990909)

ABSTRACT

PROBLEM TO BE SOLVED: To provide a static magnetic field generator for **magnetic resonance imaging** instrument appropriate for IVR and improved in openness to a body to be examined.

SOLUTION: A pair of **pole** pieces 53 and 53b, a pair of **permanent magnets** 52a and 52b, a pair of yokes 51a and 51b are arranged in opposite to each other in the vertical direction in both sides of a measurement space 40 pinched by a static magnetic field generation device 41. The upper and the lower yokes 51a and 51b support the **permanent magnets** 52a and 52b and the **pole** pieces 53a and 53b, and they are **supported** by **two columns** (yokes) 57a and 57b with the predetermined space. The yokes 51 (51a and 51b) and the columns 57 (57a and 57b) are magnetically connected to each other, and the **pole** pieces 53 (53a and 53b), the **permanent magnets** 52 (52a and 52b), the yokes 51 and the columns 57 form a magnetic circuit. Outer diameter of the **pole** pieces 53, the **permanent magnets** 57 and the yokes 51 are formed nearly same with each other, and an outer peripheral part of opposite surfaces of the **pole** pieces 53 is formed with an annular projection part. Thickness of a column connection part 61 of the yokes 51 is formed larger than that of a **permanent magnet** support part 60 thereof.

37/3,AB/15 (Item 2 from file: 347)
DIALOG(R)File 347:JAPIO

05446707

PERMANENT MAGNET MAGNETIC CIRCUIT OF OPPOSED MAGNET TYPE

PUB. NO.: 09-061507 [JP 9061507 A]
PUBLISHED: March 07, 1997 (19970307)
INVENTOR(s): OHASHI TAKESHI
YONEDA SUKEHITO
MIYATA KOJI
INOUE YUJI
APPLICANT(s): SHIN ETSU CHEM CO LTD [000206] (A Japanese Company or Corporation), JP (Japan)
GE YOKOGAWA MEDICAL SYST LTD [485515] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 07-218544 [JP 95218544]
FILED: August 28, 1995 (19950828)

ABSTRACT

PROBLEM TO BE SOLVED: To obtain an **MRI** magnetic circuit of good magnetic efficiency with superior feeling of freedom and without increase of weight by forming a constitution where a sectional area of each end part of a relay is smaller than a sectional area of a central part thereof, a back yoke is of a hexagonal or larger polygonal shape, and the aspect ratio of the cross sextion of **permanent magnet** is 1/2 to 2.

SOLUTION: The magnetic circuit is **supported** by **two posts** of yokes 8, 9 at the right and left sides. Magnetic shunt **plates** 12, 13 and magnets 11, 14 are securely fixed to back yokes 10, 15 respectively at upper and lower parts of the circuit. A uniform distribution of magnetic fields is obtained at a central space part 16 of the magnetic shunt **plates** 12 and 13. The upper and a lower parts of each post of 8, 9 are wider, while a central part is narrower in width. Accordingly, a side part is greatly improve in terms of freedom, thus remarkably reducing a patient's feeling of oppression when entering the space part of the magnetic circuit. Moreover, the back yokes 10, 15 are optimized for the structure with two pillars of yokes, that is, polygonal with six or more corners. The aspect ratio of the cross section of the magnets 11, 14 is preferably 1:2 to 2:1, optimally 1:2 to 1:1, so from view points of feeling of freedom and reduction of weight.

39/3,AB/1 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC

06427568 INSPEC Abstract Number: B9701-8340-002
Title: Improvement of yoke materials for a PM stepping motor
Author(s): Watanabe, K.; Watanabe, T.; Nakano, H.; Honnma, K.; Matsui, T.
Author Affiliation: FDK Corp., Shizuoka, Japan
Journal: IEEE Transactions on Magnetics Conference Title: IEEE Trans. Magn. (USA) vol.32, no.5, pt.2 p.4986-8
Publisher: IEEE,
Publication Date: Sept. 1996 Country of Publication: USA
CODEN: IEMGAQ ISSN: 0018-9464
SICI: 0018-9464(199609)32:5:2L.4986:IYMS;1-V
Material Identity Number: I101-96008
U.S. Copyright Clearance Center Code: 0018-9464/96/$05.00
Conference Title: 1996 IEEE International Magnetics Conference (INTERMAG '96)
Conference Sponsor: Magn. Society IEEE
Conference Date: 9-12 April 1996 Conference Location: Seattle, WA, USA
Language: English
Abstract: Recently, there are growing demands for motors that feature greater mechanical output, higher speed, and lower power consumption. Improvement of electric machine conversion efficiency of PM stepping motors is required to satisfy these needs. This paper reports on the examination of the efficiency improvement of a PM stepping motor. We examined **yoke** materials and magnetic **annealing** conditions to reduce iron losses, which are divided into **eddy current** losses and hysteresis losses. As a result, we found a better **yoke** material and **annealing** conditions that were able to decrease **eddy current** losses and hysteresis losses of the motor. The optimized PM stepping motor posted an efficiency of 63%, compared to the 40-45% efficiency of a conventional PM stepping motor.
Subfile: B

44/3,AB/1 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC

08547619 INSPEC Abstract Number: B2003-04-3120E-002
Title: Analysis of **permanent magnet** type of **MRI** taking account of hysteresis and **eddy current** and experimental verification
Author(s): Takahashi, N.; Zubaidah, S.; Kayano, T.; Miyata, K.; Ohashi, K.
Author Affiliation: Dept. of Electr. & Electron. English, Okayama University, Japan
Conference Title: Conference Proceedings. 16th Annual Review of Progress in Applied Computational Electromagnetics Part vol.1 p.349-54 vol.1
Publisher: Pennsylvania State Univ, University Park, PA, USA
Publication Date: 2000 Country of Publication: USA 2 vol.xxvii+1022 pp.
Material Identity Number: XX-2000-00430
Conference Title: Proceedings of 16th Annual Review of Progress in Applied Computational Electromagnetics
Conference Sponsor: Appl. Comput. Electromagn. Society; Naval Postgraduate School; Pennsylvania State University; Utah State University; et al
Conference Date: 20-24 March 2000 Conference Location: Monterey, CA, USA
Language: English
Abstract: A modeling technique using 3D finite element method for the minor loop using typical hysteresis loops is shown. The effect of the direction of current of the gradient coil on the residual flux density is investigated, and the behavior of minor loops in the **pole** piece of a **permanent magnet** type of **magnetic resonance imaging** (**MRI**) are also examined. Results indicated that the modeling of a minor loop by interpolating typical major hysteresis loops is effective for the analysis of the behavior of flux density and **magnetic** field in **permanent magnet** type **MRI**, and the 3D axi-symmetric analysis can be applicable to the study of the behavior of the magnetic characteristics, because the tendency of the calculated result is similar to the measured one.
Subfile: B

44/3,AB/2 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

016787715
WPI Acc No: 2005-111991/200512
XRPX Acc No: N05-096771
Magnetic field generating system for **nuclear magnetic resonance imaging** equipment, has **pole plates** having segments which are either electrically insulated or conducting only on single points, without forming conducting loop
Patent Assignee: SIEMENS CHINA LTD (SIEI); SIEMENS AG (SIEI)
Inventor: NI C; XUE T; XUE T Q
Number of Countries: 108 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 2004104612	A1	20041202	WO 2004EP5512	A	20040521	200512	B
CN 1548981	A	20041124	CN 2003136673	A	20030523	200516	

Priority Applications (No Type Date): CN 2003136673 A 20030523
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
WO 2004104612 A1 E 17 G01R-033/383
Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
Designated States (Regional): AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NA NL OA PL PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW
CN 1548981 A G01R-033/38

Abstract (Basic): WO 2004104612 A1
Abstract (Basic):
NOVELTY - The system comprises **pole plates** (2) which are arranged between pulse excitation coils and **permanent magnet** (1). The **pole plates** have segments which are either electrically insulated or conducting only on single points, without forming a conducting loop.
USE - For generation of magnetic field for use in **nuclear magnetic resonance imaging** equipment. Also for use in electro-magnetic equipment.
ADVANTAGE - Provides a **pole plate** having good magneto-conductivity and strong mechanical structure. Prevents the generation of **eddy current** and residual magnetism in the **pole plate**.
DESCRIPTION OF DRAWING(S) - The figure shows a schematic diagram of the structure of the **C-shaped magnet**.
permanent magnet (1)
pole plate (2)
fragmented **pole plate** portion (3)
shimming ring (5)
gradient coil (6)
pp; 17 DwgNo 1/3

44/3,AB/3 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

015726079
WPI Acc No: 2003-788279/200374
XRPX Acc No: N03-631629
Permanent magnet for **magnetic resonance imaging** application, has **C-shaped** yoke with two columns, magnetic material, **pole**, ring and coil
Patent Assignee: SHENYANG NEUSOFT DIGITAL MEDICAL SYSTEMS (SHEN-N); SHENYANG NEUSOFT BOPU NMR TECH CO LTD (SHEN-N)
Inventor: CHEN G; XIAO S; ZHAO S
Number of Countries: 103 Number of Patents: 004
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200382106	A1	20031009	WO 2003CN229	A	20030328	200374	B
AU 2003227173	A1	20031013	AU 2003227173	A	20030328	200435	
EP 1491138	A1	20041229	EP 2003714628	A	20030328	200502	
			WO 2003CN229	A	20030328		
US 20050253585	A1	20051117	WO 2003CN229	A	20030328	200576	

US 2004509573 A 20040929

Priority Applications (No Type Date): CN 2002U219965 U 20020401
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
WO 200382106 A1 C 12 A61B-005/055
Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
Designated States (Regional): AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW
AU 2003227173 A1 A61B-005/055 Based on patent WO 200382106
EP 1491138 A1 E A61B-005/055 Based on patent WO 200382106
Designated States (Regional): AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR
US 20050253585 A1 G01V-003/00

Abstract (Basic): WO 200382106 A1
Abstract (Basic):
NOVELTY - A **C-shaped** yoke (1) with two columns, magnetic material (2), a **pole** (3), a disc (4) for **eliminating vortex**, a ring (5) for producing uniform magnetic field, a coil (6) exhibiting gradient, are included in the **permanent magnet**.
USE - For **magnetic resonance imaging** application for medical diagnosis.
ADVANTAGE - The magnetic characteristics is excellent.
DESCRIPTION OF DRAWING(S) - The figure shows a sectional view of the **permanent magnet**.
yoke (1)
magnetic material (2)
pole (3)
disk (4)
ring (5)
coil (6)
pp; 12 DwgNo 1/2

44/3,AB/4 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014112247
WPI Acc No: 2001-596459/200167
XRPX Acc No: N01-444679
Open **C-shaped permanent magnet** structure for **magnetic resonance imaging**, comprises vertical post supporting horizontal arms of cast steel, with arms carrying pair of facing magnetised Neodymium **plates**
Patent Assignee: MILLENNIUM TECHNOLOGY INC (MILL-N); CHENG I (CHEN-I); JUNGWIRTH P J (JUNG-I); OTTER A J (OTTE-I); WU Y (WUYY-I)
Inventor: CHENG I; JUNGWIRTH P J; OTTER A J; WU Y
Number of Countries: 094 Number of Patents: 005
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200153847	A1	20010726	WO 2001CA60	A	20010119	200167	B
AU 200128228	A	20010731	AU 200128228	A	20010119	200171	

Art Already of Record of April
TMH 1-20-2006

US 20030001575 A1 20030102 WO 2001CA60 A 20010119 200305
US 2002181832 A 20020718
CN 1404580 A 20030319 CN 2001805341 A 20010119 200344
US 6842002 B2 20050111 WO 2001CA60 A 20010119 200505
US 2002181832 A 20020718
Priority Applications (No Type Date): US 2000176807 P 20000119; US 2002181832 A 20020718
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
WO 200153847 A1 E 21 G01R-033/38
Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
AU 200128228 A G01R-033/38 Based on patent WO 200153847
US 20030001575 A1 G01V-003/00
CN 1404580 A G01R-033/38
US 6842002 B2 G01V-003/00 Based on patent WO 200153847

Abstract (Basic): WO 200153847 A1
Abstract (Basic):
NOVELTY - The inventive design of open **C-shaped magnet** system for use in **magnetic resonance imaging** (**MRI**) system comprises circular Neodymium-Iron-Boron (NdFeB) **poles**, a single piece yoke having bevelled inside and outside faces between the vertical post section and horizontal arms of the yoke. The vertical post has a reduced neck mid-section and flat Neodymium corner **plates**, facing each other from the inside bevelled faces between the verticall post and horizontal arms. Composite magnetic **pole plates** are mounted on each **pole** face, each **plate** comprising laminated thin Silicon steel sheet, with insulating adhesive between the layers. The sheets are segmented into plural wedge-shaped elements, forced into a circular disk shape with insulating adhesive between the elements. Each **pole plate** is covered with a layer of high resistivity material, and a **pole** ring is mounted on each **plate**.

USE - To provide an open **C-shaped** NdFeB-based **permanent magnet** design for use in **MRI**, whole patient body scanning systems.

ADVANTAGE - Minimises quantity of NdFeB required, but still providing large volume homogeneous magnetic field across **pole** gap, minimising shimming requirements and also the production of magnetic field **eddy currents**, the inventive magnet design typically producing 0.35T mid-field strength, much improved compared with other prior art **permanent magnet** designs currently available, the open **C-shape** being preferable for patient comfort/accessibility, being open on three sides as opposed to prior art tunnel-designed systems.

DESCRIPTION OF DRAWING(S) - The drawing shows a perspective view of the magnet structure in accordance with a preferred embodiment of the inventive design.

Magnet structure yoke, supporting (1)
Poles, via (2)
Corner NdFeB magnet pieces (3)
Pole plates and (4)
Rings provideed on inside facing surfaces of **poles** (2) (5)
Horizontal support arms for **poles** (2) extending from vertical post yoke (1). (10)

pp; 21 DwgNo 1/6

52/3,AB/1 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC

09463948 INSPEC Abstract Number: B2005-08-3120W-001
Title: Losses of superconductor journal bearing
Author(s): Han, Y.H.; Hull, J.R.; Han, S.C.; Jeong, N.H.; Oh, J.M.; Sung, T.H.
Author Affiliation: Korea Electr. Power Res. Inst., Daejeon, South Korea
Journal: AIP Conference Proceedings Conference Title: AIP Conf. Proc. (USA) no.710, pt.2 p.1899-905
Publisher: AIP,
Publication Date: 2004 Country of Publication: USA
CODEN: APCPCS ISSN: 0094-243X
SICI: 0094-243X(2004)710:2L.1899:LSJB;1-T
Material Identity Number: A210-2004-032
U.S. Copyright Clearance Center Code: 7354-0186/04/$22.00
Conference Title: Advances in Cryogenic Engineering. Cryogenic Engineering Conference - CEC
Conference Sponsor: Argonne Nat. Lab.; Cryofab Inc.; Cryomagnetics Inc.; Cryomech Inc.; Fermi Nat. Accelerator Lab.; Oak Ridge Nat. Lab.; Sci. Instruments Inc.; U.S. Dept. of Energy
Conference Date: 22-26 Sept. 2003 Conference Location: Anchorage, AK, USA
Language: English
Abstract: A high-temperature superconductor (HTS) journal bearing was studied for rotational loss. **Two** HTS bearings **support** the rotor at top and bottom. The rotor weight is 4 kg and the length is about 300 mm. Both the top and bottom bearings have two **permanent magnet** (PM) rings with an iron **pole** piece separating them. Each HTS journal bearing is composed of six pieces of superconductor blocks of size 35 * 25 * 10 mm. The HTS blocks are encased in a cryochamber through which liquid nitrogen flows. The inner spool of the cryochamber is made from G-10 to **reduce eddy current** loss, and the rest of the cryochamber is stainless steel. The magnetic field from the PM rings is < 10 mT on the stainless part. The rotational drag was measured over the same speed range at several chamber pressures. Results indicate that a chamber pressure of 0.4 mtorr is sufficiently low to minimize windage loss, and the 10 mT design criterion for the magnetic field on the stainless part of the cryochamber is too high.
Subfile: B

52/3,AB/2 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

015726079
WPI Acc No: 2003-788279/200374
XRPX Acc No: N03-631629
Permanent magnet for **magnetic** resonance imaging application, has C-shaped **yoke** with **two columns**, magnetic material, **pole**, ring and coil
Applicant's own Instant Applcatn N/A PAF 1-20-2006
Patent Assignee: SHENYANG NEUSOFT DIGITAL MEDICAL SYSTEMS (SHEN-N); SHENYANG NEUSOFT BOPU NMR TECH CO LTD (SHEN-N)
Inventor: CHEN G; XIAO S; ZHAO S
Number of Countries: 103 Number of Patents: 004
Patent Family:
Patent No Kind Date Applicat No Kind Date Week

WO 200382106	A1	20031009	WO 2003CN229	A	20030328	200374	B
AU 2003227173	A1	20031013	AU 2003227173	A	20030328	200435	
EP 1491138	A1	20041229	EP 2003714628	A	20030328	200502	
			WO 2003CN229	A	20030328		
US 20050253585	A1	20051117	WO 2003CN229	A	20030328	200576	
			US 2004509573	A	20040929		

Priority Applications (No Type Date): CN 2002U219965 U 20020401
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200382106	A1	C	12	A61B-005/055	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
Designated States (Regional): AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW

AU 2003227173	A1	A61B-005/055	Based on patent WO 200382106
EP 1491138	A1 E	A61B-005/055	Based on patent WO 200382106

Designated States (Regional): AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR

US 20050253585	A1	G01V-003/00

Abstract (Basic): WO 200382106 A1
Abstract (Basic):

NOVELTY - A C-shaped **yoke** (1) with **two columns**, magnetic material (2), a **pole** (3), a disc (4) for **eliminating vortex**, a ring (5) for producing uniform magnetic field, a coil (6) exhibiting gradient, are included in the **permanent magnet**.

USE - For magnetic resonance imaging application for medical diagnosis.

ADVANTAGE - The magnetic characteristics is excellent.

DESCRIPTION OF DRAWING(S) - The figure shows a sectional view of the **permanent magnet**.

yoke (1)
magnetic material (2)
pole (3)
disk (4)
ring (5)
coil (6)
pp; 12 DwgNo 1/2

52/3,AB/3 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

015692980
WPI Acc No: 2003-755169/200371
Related WPI Acc No: 2003-199594; 2003-220249; 2003-275651; 2003-657895; 2004-387836
XRAM Acc No: C03-207184
XRPX Acc No: N03-605054
Magnet assembly for imaging apparatus, comprises layers of soft magnetic material, and body
Patent Assignee: GENERAL ELECTRIC CO (GENE)
Inventor: AMM K M; LASKARIS E T; PALMO M A; THOMPSON P S

Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20030090354	A1	20030515	US 2001824245	A	20010403	200371 B
			US 2002309139	A	20021204	

Priority Applications (No Type Date): US 2001824245 A 20010403; US 2002309139 A 20021204
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20030090354	A1		26	H01F-005/00	Div ex application US 2001824245 Div ex patent US 6518867

Abstract (Basic): US 20030090354 A1
Abstract (Basic):

NOVELTY - An imaging apparatus magnet assembly comprises at least one layer of soft magnetic material, and a body of first material for use as **permanent magnet**. The body has a first surface attached over the soft magnetic layer, and a shaped second surface designed to face an imaging volume of imaging apparatus.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(a) a magnetic resonance imaging system or a magnetic imaging system comprising a yoke having first portion, second portion and third portion connecting the first and second portions; a first magnet assembly attached to the first yoke portion; and a second magnet assembly attached to the **second yoke** portion;

(b) a method of making an imaging device by providing a support, attaching a first precursor body of first unmagnetized material to a first support portion, magnetizing the first material to form a first **permanent magnet** body, attaching a second precursor body of second unmagnetized material to a **second support** portion, and magnetizing the second material to form a second **permanent magnet** body;

(c) a method of making a magnet assembly by placing blocks of material useful as **permanent magnet** into a mold cavity having non-uniform cavity surface contour, filling the mold cavity with adhesive substance to bind the blocks into a first assembly comprising a unitary body, and removing the first assembly from the mold cavity; and

(d) a method of imaging a portion of patient's body using magnetic resonance imaging by detecting an image of a portion of patient's body located in a magnetic image resonance system, and processing the detected image.

USE - For imaging apparatus.

ADVANTAGE - **Eddy currents** are **reduced** or eliminated by placing soft magnetic layer between the **permanent magnet** and portion of yoke. This allows formation of an imaging system without **pole** pieces. By omitting the **pole** pieces, **permanent magnet** size, weight and cost are reduced compared to those of prior art system, and the strength of magnetic field in the imaging volume is increased.

DESCRIPTION OF DRAWING(S) - The figure is a perspective view of a body for use as **permanent magnet**.

Base section (31)
Intermediate section (33)
Hollow ring section (35)
First adhesive layer (52)
Second adhesive layer (53)
pp; 26 DwgNo 3/17

52/3,AB/4 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX

015215114
WPI Acc No: 2003-275651/200327
Related WPI Acc No: 2003-199594; 2003-220249; 2003-657895; 2003-755169; 2004-387836
XRAM Acc No: C03-072475
XRPX Acc No: N03-218895

Magnetic resonance imaging system, for use in imaging portion of patient's body, comprises layer of soft magnetic material between first yoke portion and body of first **permanent magnet** material

Patent Assignee: GENERAL ELECTRIC CO (GENE)
Inventor: AMM K M; LASKARIS E T; PALMO M A; THOMPSON P S

Number of Countries: 001 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 20020180573	A1	20021205	US 2001824245	A	20010403	200327	B
			US 2002157965	A	20020531		
US 6525634	B2	20030225	US 2001824245	A	20010403	200327	
			US 2002157965	A	20020531		

Priority Applications (No Type Date): US 2001824245 A 20010403; US 2002157965 A 20020531
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20020180573	A1		26	H01F-005/00	Div ex application US 2001824245
US 6525634	B2			H01F-001/00	Div ex application US 2001824245

Abstract (Basic): US 20020180573 A1
Abstract (Basic):

NOVELTY - A magnetic resonance imaging system comprising layer of soft magnetic material is located between a first yoke portion and body of first **permanent magnet** material. A third yoke portion connects the first yoke portion and a **second yoke** portion to form an imaging volume.

DETAILED DESCRIPTION - A magnetic resonance imaging system comprises yoke, first magnet assembly attached to first portion of the **yoke** and **second** magnet assembly attached to second portion of the yoke. The yoke further comprises a third portion for connecting the first and second portions and form an imaging volume between the two portions. A layer of soft magnetic material is located between the first yoke portion (13) and body of first **permanent magnet** material (15). The second surface of the body of the **permanent magnet** material faces the imaging volume.

INDEPENDENT CLAIMS are also included for:

(a) a method of making an imaging device comprising providing a support comprising three portions forming an imaging volume, attaching a first precursor body comprising first unmagnetized material to the first support portion, attaching a second precursor body comprising second unmagnetized material to the **second support** portion, magnetizing the first unmagnetized material to form a first **permanent magnet** body after the step of attaching the first precursor data, and magnetizing the second unmagnetized material to form a second **permanent magnet** body after the step of attaching the second precursor body; and

(b) a method of imaging a portion of patient's body using the magnetic resonance imaging comprising detecting an image of a portion

of a patient's body located in the system and processing the detected image.

USE - The system is useful as magnetic resonance therapy or nuclear magnetic resonance system. It is used to image a portion of patient's body.

ADVANTAGE - The system may be operated without **pole** pieces due to the presence of the soft magnetic material. It is made without **pole** pieces so reducing the weight and cost, and increasing the strength of magnetic field of imaging volume. Its manufacture does not need special robot and/or crank so decreasing the cost and increasing the simplicity of the manufacturing process. The soft magnetic material between the **permanent magnet** and a portion of the yoke **reduces** or eliminates **eddy currents**.

DESCRIPTION OF DRAWING(S) - The drawing shows a side cross-section of the **permanent magnet** assembly.

First yoke portion (13)

Permanent magnet material (15)

Hollow ring magnet (21, 23, 25)

pp; 26 DwgNo 2/17

52/3,AB/5 (Item 4 from file: 350)

DIALOG(R)File 350:Derwent WPIX

014765771

WPI Acc No: 2002-586475/200263

XRPX Acc No: N02-465236

Permanent magnet polarizing device, e.g. for motor, includes polarizing yokes with alternate magnetic **pole** tooth of opposite **poles**, arranged overlapping mutually and comprises wire wound to base of yoke

Patent Assignee: HITACHI LTD (HITA)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 2002142415	A	20020517	JP 2000342378	A	20001106	200263	B

Priority Applications (No Type Date): JP 2000342378 A 20001106

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 2002142415	A		6	H02K-015/03	

Abstract (Basic): JP 2002142415 A

Abstract (Basic):

NOVELTY - The device has a wire (12) wound to base of a U-shaped polarizing **yoke** (11). **Two** magnetic **poles** (13,14) that form the sides of the yoke are arranged such that the **pole** tooth (13a,13b) overlap mutually with the **pole** tooth (14b,14a), respectively.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for **permanent magnet** polarizing method.

USE - For polarizing **permanent magnet** e.g. for electric motor, generator, or magnet distributor shaft coupling.

ADVANTAGE - Polarization distribution is not influenced by the winding wires which move by electromagnetic force or the electrical **eddy current** flowing through the winding wire. The winding wire is separated from the **permanent magnet** and is not installed between the magnetic **poles**, thus narrowing the magnetic **pole** pitch. The wiring structure is simple and thus it can be

easily wound and the wire diameter and the number of turns of the wire can be increased.

DESCRIPTION OF DRAWING(S) - The figure shows the components of the polarizing device.

Polarizing yoke (11)
Wire (12)
Magnetic **poles** (13,14)
Pole tooth (13a,13b,14a,14b)
pp; 6 DwgNo 1/11

52/3,AB/6 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX

011766293
WPI Acc No: 1998-183203/199817
XRPX Acc No: N98-145063
Electric dynamometer of test device for vehicle - has yokes provided with corresponding nails that cover periphery of cyclic coils so that each yoke face internal circumferential surface of rotor
Patent Assignee: MEIDENSHA CORP (MEID)
Number of Countries: 001 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 10038716	A	19980213	JP 96197345	A	19960726	199817	B
JP 3525635	B2	20040510	JP 96197345	A	19960726	200432	

Priority Applications (No Type Date): JP 96197345 A 19960726
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 10038716	A		4	G01L-003/22	
JP 3525635	B2		4	G01L-003/22	Previous Publ. patent JP 10038716

Abstract (Basic): JP 10038716 A

The dynamometer (1) includes a revolving shaft (2) rotated by a tube-like rotor (5). A crow-**pole** type yoke (6) is fixed on an undulation frame (4) which supports the shaft. Cyclic coils (7) and **permanent magnets** (8) are interposed midway through the yoke to generate corresponding parallel fluxes that dampens the rotation of the rotor.

The **second yoke** is provided with a nail that extends from the right to the left end surface of the first yoke that also has a nail this time extending from the left to the right end surface of the coil. The nails cover the periphery of the coil to make the yokes face the internal circumferential surface of the rotor.

ADVANTAGE - Ensures relative **reduction** of **eddy current** generated by rotor by forming magnetic field between coil and **permanent magnets**, thereby minimising source capacity distribution. Enables wide-range torque control by reversing polarity of current supplied in coil. Adjusts retarding torque with sufficient accuracy by compensating temperature change in magnets with control of current supplied in coil. Enables use as power-absorption unit.

Dwg.1/6

52/3,AB/7 (Item 6 from file: 350)
DIALOG(R)File 350:Derwent WPIX

008069095
WPI Acc No: 1989-334207/198946
XRPX Acc No: N89-254221
Pulse motor, e.g. for printer - has drive coil excited to drive rotor, and yoke for guiding magnetic flux to predetermined magnetic path
Patent Assignee: OKI ELECTRIC IND CO LTD (OKID)
Inventor: ISHIKAWA M; KASAI T; KIKUCHI H; TANUMA J
Number of Countries: 005 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 341867	A	19891115				198946	B
JP 1283049	A	19891114	JP 89111473	A	19890510	198951	
US 4990806	A	19910205	US 89350721	A	19890427	199108	

Priority Applications (No Type Date): JP 88111473 A 19880510; JP 89111473 A 19890510
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 341867	A	E			
Designated States (Regional): DE FR GB					
JP 1283049	A		4		

Abstract (Basic): EP 341867 A
The pulse motor comprises a rotor, a drive coil excited by a predetermined drive current to drive the rotor, and a yoke for guiding a magnetic flux generated by the drive coil to a predetermined magnetic path. The yoke is provided with a through hole to restrict the flow path of an **eddy current** induced by the magnetic flux generated by the drive coil.
The through-hole intercepts the flow path for the **eddy current**. The through-hole comprises circular perforations arranged in rows in the direction crossing the flow path of the **eddy current**.
ADVANTAGE - Prevents heat generation of yoke, increased drive efficiency.
Dwg.1/7
Abstract (Equivalent): US 4990806 A
A rotor is provided having a **permanent magnet** divided and magnetised along the outer periphery. A drive coil surrounds the outer periphery of the rotor with an annular inner yoke having a number of magnetic **poles** positioned between the rotor and the drive coil. The inner yoke surrounding the outer periphery of the rotor. An annular outer **yoke** has **two** parts, and surrounds the entirety of the rotor, drive coil and inner yoke.
A flange having a bearing supports the rotor, with the flange being integrally mounted to one of the two parts of the outer yoke. A motor mounting **plate** has a bearing for supporting the rotor mounted to the other of the two parts of the outer yoke. The inner and at least one of the outer yokes are each provided with at least one aperture for restraining an **eddy current**.

52/3,AB/8 (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX

007409504
WPI Acc No: 1988-043439/198807
XRPX Acc No: N88-032819
Single coordinate measuring probe for cog teeth testing - uses **eddy**

current damping of mechanical vibration of spring mounting for sensor pin
Patent Assignee: MAHR C & CO GMBH (MAHR-N)
Inventor: EDENHARTER U; JENTNER W
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DE 3625636	A	19880211	DE 3625636	A	19860729	198807	B

Priority Applications (No Type Date): DE 3625636 A 19860729
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 3625636	A		4		

Abstract (Basic): DE 3625636 A
The measuring probe has the holder (4) for the sensor pin (16) **supported** by a **double** parallelogram spring blade mounting (8,9) coupled to an incremental measuring system with the force exerted on the sensor pin adjusted by a pneumatic cylinder (3). The spring force of the spring blade mounting (8,9) is compensated by **permanent magnets** (12), with **eddy current** damping of any vibration.
Pref. the damping system comprises a U-shaped yoke (11) with a pair of opposing magnets (12) attached to the inside faces of both arms, lying one on either side of a copper **plate** (13).
USE/ADVANTAGE - Rapid checking of cog teeth

52/3,AB/9 (Item 8 from file: 350)
DIALOG(R)File 350:Derwent WPIX

003077874
WPI Acc No: 1981-H7914D/198134
Stabilising mechanism for optical sighting system - includes magnetic damping minimising oscillation of mirrors in two perpendicular directions
Patent Assignee: SOPELEM SOC OPTIQUE (SOPM)
Inventor: BALUTEAU J M; DELABY A
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
FR 2472815	A	19810703				198134	B

Priority Applications (No Type Date): FR 7931994 A 19791228
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
FR 2472815	A		8		

Abstract (Basic): FR 2472815 A
The optical system for inclusion in a sighting device or laser telemeter includes a front stabilising mirror a reflector and a rear stabilising mirror. The front mirror oscillates about an axis of rotation and is associated with a suspension assembly which allows this oscillation but damps the movement. The rear mirror may oscillate about a perpendicular axis in similar circumstances with damping.
The pivots on which the **two** mirrors are **supported** are elastic providing a returning couple. The damping mechanism consists of two **plates** projecting from the sides of the frame in which the mirror is mounted. These **plates** pass through the **magnetic** field of **permanent magnets**, producing damping by an

eddy current effect.

52/3,AB/10 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO

07064922
EDDY CURRENT REDUCER

PUB. NO.: 2001-292560 [JP 2001292560 A]
PUBLISHED: October 19, 2001 (20011019)
INVENTOR(s): SAITO AKIRA
APPLICANT(s): SUMITOMO METAL IND LTD
APPL. NO.: 2000-103426 [JP 2000103426]
FILED: April 05, 2000 (20000405)

ABSTRACT

PROBLEM TO BE SOLVED: To achieve braking effect for a long time by restraining the temperature increase of a rotor.

SOLUTION: **Two support** rings having a group of **permanent magnets**, where N and S **poles** are arranged alternately with the same interval as switch **plates** 4 along the peripheral direction counterposed to a rotor 2 are arranged via the group of switch **plates** 4 that are arranged between supports 3 at a prescribed interval in the inner- periphery surface side of the rotor 2 that is provided at a rotary shaft 1. The switching **plates** 4 of this **eddy current** brake device that is composed so that **permanent magnets** 5b and 5a can select the position, where the **permanent magnet** 5b and the adjacent **permanent magnet** 5a of a fixed support ring 6a are of the same **pole** by the turning movement of the other movable support ring 6b, and the positions where the **permanent magnet** 5b and the **permanent magnet** 5a of different polarity are set to a magnetic shunt material 4a. As the temperature rises, the reluctance of a magnetic circuit increases, and braking is inhibited in continuous braking for suppressing the temperature increase of the rotor, thus preventing thermal deformation of the rotor and thermal cracks from being generated. Also, the temperature increase in the **permanent magnet** due to the thermal influence of the rotor is inhibited, and stable braking effect can be maintained over a long time, while the temperature of the **permanent magnet** does not exceed the maximum temperature.

52/3,AB/11 (Item 2 from file: 347)
DIALOG(R)File 347:JAPIO

04580030
MAGNETIC FIELD GENERATOR FOR MRI

PUB. NO.: 06-251930 [JP 6251930 A]
PUBLISHED: September 09, 1994 (19940909)
INVENTOR(s): OTA KIMIHARU
AOKI MASAAKI
TAKEUCHI HIROYUKI
TAKESHIMA HIROTAKA

APPLICANT(s): SUMITOMO SPECIAL METALS CO LTD [330335] (A Japanese Company or Corporation), JP (Japan)
HITACHI MEDICAL CORP [420143] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 05-063397 [JP 9363397]
FILED: February 25, 1993 (19930225)
JOURNAL: Section: E, Section No. 1639, Vol. 18, No. 641, Pg. 140, December 06, 1994 (19941206)

ABSTRACT

PURPOSE: To provide tha magnetic **pole** pieces of a magnetic field generator for MRI, which consists of a constitutions, wherein the generation of an **eddy current** is **reduced** without reducing the degree of uniformity of a magnetic field in a gap and the inclined magnetic field can rise in a prescribed intensity in a short timne, and a constitution, wherein a retentive phenomenon is reduced and a distinct image can be obtained.

CONSTITUTION: **Two** sheets of **yoke plates** 1 and 1 are arranged in opposition to each other by four pillar shaped yokes 2, discal **permanent magnet** constitutional bodies 3 and 3 are respectively provided contactingly on the centers of the opposed surfaces of the yokes 1 and 1, magnetic **pole** pieces 4 and 4 provided contactingly on the gap opposed surfaces of the constitutional bodies 3 and 3 are respectively arranged on protrusions 6 provided on the peripheral edges of discal base materials 5 consisting of iron or the like, the protrusions 6 and surface layer parts 7 in the vicinities of the protrusions 6 are formed of a silicon steel **plate** or a soft ferrite and a central protrusion part 8, most of which consists of a flat protrusion and which is made of a soft ferrite, is provided on the central part of each discal base material 5. Thereby, a magnetic field in a gap 9 is made uniform and even if an inclined magnetic field coil in energized with a GC pulsed **current**, an **eddy current** , which is generated in the vicinities of the protrusion parts 6 on the peripheral edges of the materials 5, is reduced and a distinct sectional image is obtained.

52/3,AB/12 (Item 3 from file: 347)
DIALOG(R)File 347:JAPIO

03975362
INSERT TYPE **EDDY CURRENT** FLAW DETECTOR FOR MAGNETIC PIPE

PUB. NO.: 04-340462 [JP 4340462 A]
PUBLISHED: November 26, 1992 (19921126)
INVENTOR(s): TOMOURA SEIICHIROU
OKUBO AKIHIKO
APPLICANT(s): ASAHI CHEM IND CO LTD [000003] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 03-113050 [JP 91113050]
FILED: May 17, 1991 (19910517)
JOURNAL: Section: P, Section No. 1521, Vol. 17, No. 189, Pg. 91, April 13, 1993 (19930413)

ABSTRACT

PURPOSE: To detect the flaw of a magnetic pipe with high sensitivity at a high speed by subjecting the magnetic pipe to saturation magnetization over the whole of the wall thickness thereof by a **permanent magnet** having a rectangular parallelepiped shape, the magnetic resistance of a

pair of yoke heel pieces each having a diameter smaller than that of the pipe to be inspected and an inspection coil.

CONSTITUTION: **Two yoke** heel pieces 2 having a circular arc shape are provided so as to be bonded to both magnetic **pole** surfaces of a **permanent magnet** 1 having a rectangular parallelepiped shape. In iron-cobalt alloy low in magnetic resistance is used in the yoke heel pieces 2 to lower magnetic resistance as a whole and magnetic flux is passed through the flaw detection position in a pipe 4 to be inspected to achieve saturation magnetization. Inspection coils 3 are arranged to the groove parts of two places surrounded by **two yoke** heel pieces and the **permanent magnets** to perform the reception and transmission of an electromagnetic wave and flaw detection in two directions is made possible by one set of the **permanent magnet** and the yoke heel pieces. As a result, the presence or degree of a damage can be detected with high sensitivity at a high speed.

57/3,AB/1 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO

04703327
MAGNET ASSEMBLY OF **MRI** DEVICE

PUB. NO.: 07-023927 [JP 7023927 A]
PUBLISHED: January 27, 1995 (19950127)
INVENTOR(s): INOUE YUJI
SERIZAWA KATSUMI
FURUTA OSAMU
APPLICANT(s): GE YOKOGAWA MEDICAL SYST LTD [485515] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 05-171681 [JP 93171681]
FILED: July 12, 1993 (19930712)

ABSTRACT

PURPOSE: To watch a patient in a magnet assembly easily from the outside by supporting an upper and a lower base yokes facing each other through **two column** yokes, and providing **permanent magnets** in facing surfaces of the upper and a lower base yokes.

CONSTITUTION: A magnet assembly 1 is composed of a lower base yoke cover 2a, a column yoke covers 3a, 3b, and an upper base yoke cover 2b to be cylindrical. A patient placed on a table A comprising a base B and a bed slide part C s put into a cylinder of the magnet assembly 1 of an **MRI** device by moving the bed slide part **C**. A **magnetic** circuit composing part of this magnet assembly supports a lower and upper base yokes 22a, 22b through **two column** yokes 23a, 23b, and **permanent magnets** 23a, 23b are fixed to facing surfaces of both base yokes 22a, 22b, and magnetic shunt **plates** 29a, 29b are fixed to facing surfaces of the **permanent magnets** 28a, 28b respectively.

60/3,AB/1 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC

0000439837 INSPEC Abstract Number: 1955B01063
Title: A magnetic balance for testing materials
Author(s): Brackmann, J.
Journal: Siemens Zeitschrift 28 9 p.399-404
Publication Date: Nov. 1954 Country of Publication: Germany
Language: German
Abstract: In the magnetic balance, the specimen is attached to the end of a horizontal member **supported** by **two** bifilar suspensions. The specimen moves between the **poles** of a **permanent magnet** in an area where the gradient with distances is constant so that the force on the specimen = magnetization at saturation multiplied by the volume of the specimen and by the gradient of the magnetic field. A chamber surrounds the **pole** -pieces and the specimen so that the tests can be made over the temperature range from -150 to +700(deg) **C**. Plots of **magnetization** at saturation versus temperature show clearly the effects of alloying elements whether magnetic or not. Details are given of several uses of the instrument for testing materials.
Subfile: B

60/3,AB/2 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

011304970
WPI Acc No: 1997-282875/199726
XRAM Acc No: C97-091052
XRPX Acc No: N97-234230
Magnetic field type oxygen@ enriched air production - with only a small space between the rotor and casing producing compact arrangements
Patent Assignee: TOYOTA JIDOSHA KK (TOYT)
Inventor: IZUO T; KOBUKI S; MIKAME K; NITTA S; ASAYAMA K; ITO Y
Number of Countries: 007 Number of Patents: 010
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 773188	A2	19970514	EP 96117889	A	19961107	199726	B
JP 9194201	A	19970729	JP 96263926	A	19961004	199740	
KR 97025719	A	19970624	KR 9654764	A	19961112	199825	
US 5779770	A	19980714	US 96746490	A	19961112	199835	
KR 211003	B1	19990715	KR 9654764	A	19961112	200102	
EP 773188	B1	20010124	EP 96117889	A	19961107	200107	
DE 69611652	E	20010301	DE 96611652	A	19961107	200119	
			EP 96117889	A	19961107		
CN 1156688	A	19970813	CN 96114462	A	19961113	200139	
JP 3353620	B2	20021203	JP 96263926	A	19961004	200281	
CN 1045188	C	19990922	CN 96114462	A	19961113	200460	

Priority Applications (No Type Date): JP 96263926 A 19961004; JP 95294597 A 19951113
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 773188	A2	E	15	C01B-013/02	
Designated States (Regional): DE FR GB					
JP 9194201	A		8	C01B-013/02	

KR 97025719	A		B03C-001/00	
US 5779770	A		B03C-001/02	
KR 211003	B1		B03C-001/00	
EP 773188	B1 E		C01B-013/02	
Designated States (Regional): DE FR GB				
DE 69611652	E		C01B-013/02	Based on patent EP 773188
CN 1156688	A		C01B-013/02	
JP 3353620	B2	8	C01B-013/02	Previous Publ. patent JP 9194201
CN 1045188	C		C01B-013/02	

Abstract (Basic): EP 773188 A

A magnetic field type oxygen enriched air producing apparatus including: (a) a casing (6). (b) a rotor (7) located in and rotatably supported by the casing, the rotor and the casing defining a space (A) between. (c) a **magnetic** field generating device for generating a magnetic field in the space. (d) an air inlet (8) formed in the casing . (d) an oxygen enriched air outlet (9) formed in the casing. (e) a nitrogen enriched air outlet (10) formed in the casing. The space (A) extending in an axial direction with the magnetic field including a magnetic flux extending axially through the space and magnetic **poles** produced at opposite ends of the space. The oxygen enriched air outlet (9) being formed at a position close to at least one of the magnetic **poles** and the nitrogen enriched air outlet (10) being formed at a position axially spaced from the oxygen enriched air outlet.

Also claimed are apparatus in which the rotor includes a number of elements operable as a supercharger selected from a Roots blower, Lysholm compressor, a screw type pump and a movable vane compressor with each rotor element having a **permanent magnet** or coil, apparatus in which the space between the rotor and casing includes a first volume adjacent the oxygen enriched air outlet and a **second** greater **column** adjacent the nitrogen enriched air outlet and apparatus having a magnetic flux intensifying core with the coil arranged outside the casing.

USE - In the production of oxygen enriched air by use of a magnetic field for vehicles, combustion and other industrial equipment.

ADVANTAGE - Because the generated magnetic field has a magnetic flux extending in the axial direction of the space defined between the rotor and the casing, the size of the oxygen enriched air producing apparatus can be compact in a radial direction of the space. Because the oxygen enriched air outlet and the nitrogen enriched air outlet are spaced from each other in the axial direction, the oxygen enriched air can be selectively removed through the oxygen enriched air outlet, so that the yield of oxygen can be increased. By arranging the magnetic field generating device at the casing, even in a case where the magnetic field generating device includes an electromagnet it is unnecessary to provide an electric current collecting device and therefore the apparatus is simple and reliable in operation. By disposing the magnetic field generating device at the rotor, the casing is not occupied by the magnetic field generating device so that the freedom for arranging an air inlet and a

Dwg.1/15

60/3,AB/3 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

009786943
WPI Acc No: 1994-066796/199409

XRPX Acc No: N94-052255
Electromagnetic oscillation generator for oscillating conveying device - has armature between opposing **pole** faces of magnetic core with air-gap at each end
Patent Assignee: LICENTIA PATENT-VERW GMBH (LICN)
Inventor: FROELICH B
Number of Countries: 001 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DE 4227847	A1	19940224	DE 4227847	A	19920822	199409	B
DE 4227847	C2	19940609	DE 4227847	A	19920822	199421	

Priority Applications (No Type Date): DE 4227847 A 19920822
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 4227847	A1		5	B06B-001/04	
DE 4227847	C2		5	B06B-001/04	

Abstract (Basic): DE 4227847 A

The oscillation generator has a magnetic core (6) enclosed by an energising winding (7) and a cooperating armature (8), spaced from its **pole** faces. The magnetic core and the armature are coupled via springs allowing relative oscillation.

The magnetic core comprises a **C-shaped yoke** with **two** opposing **pole** faces (9,9') the armature positioned between them, with an air-gap (11,11') between each **pole** face and the respective end face (10,10') of the armature, the latter oscillating along the width of the air-gaps.

ADVANTAGE - Uniform force delivery, preventing impact of armature with magnetic core for relatively inside oscillation.

Dwg.1/2

Abstract (Equivalent): DE 4227847 C

The electromagnetic vibrator employs field-connected **two-pole yoke** type core and armature in relative movement. The two **pole** faces (9,9') face one another and the interposed armature (8) is placed to form air gaps (11,11') on both sides so the armature oscillates in service in a direction parallel to the **pole** faces. The armature is parted from the core (6) thus leaving the core **poles** (9,9'), the core to be ring shaped and the armature made up of a stack of sheets and differing in section from the core (6).

The two **pole** faces differ from one another, the armature to be **poled** by **permanent magnet** or DC winding. Core and exciter winding (7) are arranged so as not to obstruct the movement of the armature as defined by a guide. The armature faces are thus polarised opposite to those of the core (6) for added repulsion during armature movement.

USE/ADVANTAGE - Conveying of e.g. free-flow bulks. Armature rides clear between opposed core **poles** with maintained air gap to prevent impact and possible damage.

Dwg.1/2

60/3,AB/4 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX

004397870
WPI Acc No: 1985-224748/198537
XRPX Acc No: N85-168820

Magneto DC motor with four **permanent magnets** - has magnet **pole** pieces securely located in yoke by inter-polar spring clips

Patent Assignee: HITACHI LTD (HITA)

Inventor: KOBAYASHI H; NAITO S; OGASAWARA N; TANI T; TOMITE T

Number of Countries: 008 Number of Patents: 009

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 154335	A	19850911	EP 85102521	A	19850306	198537	B
JP 60187249	A	19850924	JP 8441970	A	19840307	198544	
JP 60204235	A	19851015	JP 8458311	A	19840328	198547	
CN 8503925	A	19861029				198740	
US 4745319	A	19880517	US 85707032	A	19850301	198822	
CA 1247686	A	19881228				198905	
EP 154335	B	19890607				198923	
DE 3570962	G	19890713				198929	
KR 9003988	B	19900607				199126	

Priority Applications (No Type Date): JP 8458311 A 19840328; JP 8441970 A 19840307

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 154335	A	E	31		
Designated States (Regional): DE FR GB					
EP 154335	B	E			
Designated States (Regional): FR GB					

Abstract (Basic): EP 154335 A

On the inner periphery of the motor's yoke (2), four **permanent magnets** (4) are equally spaced apart but are not mechanically attached to the yoke itself. Instead, the magnets are securely held in position by spring retainers (3). Each retainer consists of a flat back surface of approx. the same axial length as the **permanent magnet poles**, with side members (12,13) raised and spaced apart to give a strong interference fit between the radial side surfaces (71,72) of the adjacent magnets. The ends of each side member are returned (32) to retain the magnets (4) against movement in an axial direction.

The four U-formed retainers are pressed out radially into the space between magnets and secured by plastic bonding to the yoke.

ADVANTAGE - Resists vibration well.

2/12

Abstract (Equivalent): EP 154335 B

A **magnetic** D.C. motor with a magnet mounting retainer comprising: a stator having a plurality of arcuate **permanent magnets** (4) disposed on the inner periphery of a cylindrical yoke (2) with gaps (9) between two adjacent magnets; a rotor which rotates around the central axis or said stator by excitation; retainers (3), each of which comprises a bottom piece having a surface (11) contacting the inner periphery of said yoke in siad gap, said bottom piece having through-bores (33), said cylindrical yoke being plastically deformed at prescribed locations thereof so as to have protrusions extending rom the inner periphery thereof, said protrusions being inserted into the bores (33) of said retainers so as to secure said retainers to the inner periphery of said cylindrical yoke, the bottom piece of each retainer being connected with two radial side-pieces (12, 13) thereof, being made of an elastic member, and extending in a direction of the central axis (O) of said D.C. motor along facing surfaces (71, 72) of said magnets opposite to each other across said gap, each radially extending piece (32) is connected to two end pieces (12, 13), respectively, made of an elastic member, and extending along end

surfaces (18, 82) of the magnet adjacent to the corresponding facing surface (71, 72); said two radially extending pieces (12, 13) and said end pieces (32) securing said **permanent magnets** to said yoke by prssing and clamping said magnets while contacting magnets from three directions, namely from said facing surfaces (71, 72) and said two end surfaces (81, 82), each radially extending piece having the two end pieces thus forms a supporting part (3a, 3b) clamping said magnet (4), the distance (Ls) between the said end pieces (31, 32) is made narrower than the axial length (Lm) of said magnet (4) clamped between said end pieces, to thereby give said retainer an adequate clamping force. (12pp)

Abstract (Equivalent): US 4745319 A

Permanent magnets (4) are disposed with gaps between adjacent magnets along the inner peripheral surface of a yoke (2) of a stator for a **magneto** D.C. motor. In gaps between magnets, there are provdied retainers (3), each of which is made of an elastic member and consists of one surface (11) fixed on the **yoke**, **two** surfaces (12,13) extending in the central axial direction of the D.C. motor along the side facing surfaces (71,72) of the magnets opposite to each other on the inner peripheral surface of the **yoke** and **two** end portions (32) connecting these two surfaces (12,13).

The latter and end portions are kept in contact with the **permanent magnet** from three directoins, namely from both facing surfaces (71,72) of the **permanent magnet** and from each of the outer surfaces (18,82) of the magnets adjacent to each facing surface (71,72) extending in the central axial direction.

USE/ADVANTAGE - Mangeto D.C. motor which retains strength of yoke and magnets and can resist vibration sufficiently from viewpoint of strength. (11pp)Q

60/3,AB/5 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX

004192862
WPI Acc No: 1985-019742/198504
XRPX Acc No: N85-014409

Polarised electromagnetic relay - has two parallel L-shaped yokes with magnet between and acting as zero point for all tolerances

Patent Assignee: HENGSTLER GMBH (HENG-N); HENGSTLER KG J (HNGS)
Inventor: NESTLEN W; REGER A
Number of Countries: 012 Number of Patents: 006
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 131218	A	19850116	EP 84107529	A	19840629	198504 B
DE 3324246	A	19850117				198504
DE 3324246	C	19851128				198549
US 4623863	A	19861118	US 84626932	A	19840702	198649
EP 131218	B	19881214				198850
DE 3475673	G	19890119				198904

Priority Applications (No Type Date): DE 3324246 A 19830706
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 131218	A	G	15		
	Designated States (Regional): AT BE CH DE FR GB IT LI LU NL SE				
EP 131218	B	G			
	Designated States (Regional): AT BE CH DE FR GB IT LI LU NL SE				

Abstract (Basic): EP 131218 A

The relay has an angled **yoke** arrangement comprising **two** parallel yokes with a **permanent magnet** between. The magnet is also between armature **plates**. The limbs of the yoke arrangement carry an excitation coil. The magnet in a pivoted armature rocker has its armature **plate** moved into contact with the **pole** faces of the yoke.

All parts are mounted onto the spring set (1) and refer to it. Symmetry in the magnet parts is achieved by making the **two yoke** (14,15) L shaped and precisely symmetric w.r.t. one another and by having their core limbs (22,23) extending touching over the entire length of the coil (17).

ADVANTAGE - The spring set acts as a centralised holder for the excitation coil, the yoke and the rocket. All mechanical and electrical tolerances are made to refer to the yoke as zero axis. Asymmetry due to losses in the air gap is compensated. Simple assembly.

1/10

Abstract (Equivalent): EP 131218 B

A polarised electomagnetic relay comprising a yoke system formed by **two** angled-over **yoke** brackets (14,15) having their ends facing towards each other, in which the first ends (22,23) of the yoke brackets form the core of the excitation coil (17) of the relay, and an **H-shaped** rotary armature (11) having lateral bearing pivots (13) and formed by two armature **plates** (24,25) with interposed **permanent magnets** (12) is placed between the second ends of the yoke brackets forming **pole** surfaces (27,28), and wherein the said relay components including the relay contact springs are secured in a generally interlocking manner with respect to each other and to the respective relay housing characterised in that the relay housing ocmprises a base housing element (1), constructed in substantially plano-symmetric form, which at its end facing away from the relay contact springs (2) has, formed by two sidewalls (34,35) having the rotary armature (11) and the excitation coil (17) of the relay between them, a reception opening (36) for these relay components, that these sidewalls (34,35) are each provided with a detent recess (7) in mutual alignment or receive the bearing pivots (13) of the rotary armature (11), that these sidewalls (34,35) have mutually opposed grooves (47,48) formed in their inner sides to receive guiding projections (45,46) formed on the ends of the yoke brackets (14,15) forming the polar surfaces (27,28) that short guiding ribs (37,38) for engagement in detent apertures (39,40) provided on the sides of the excitation coil (17) are formed moreover on the inner sides of these sidewalls (34,35), and that the ends of the yoke brackets (14,15) forming the core of the excitation coil excitation coil extend mutually parallel and in mutual contact throughout the length of the coil. (10pp)

Abstract (Equivalent): US 4623863 A

A magnet frame, relative to conduit rabbets, with angles-off **yoke** arrangement, includes **two** separated, parallel-arranged yokes, as well as a **permanent magnet** that lies in between and between anchor **plates**. The two yokes are L-shaped and formed exactly identical, where their core shanks stretch over the entire length of the exciter coil, and lie next to each other in the region of the coil.

A spring carrier has **pole** faces whose side shoulders engage in side grooves in response to insertion of yokes into the housing.

ADVANTAGE - Assymmetry of frame is compensated by losses arising from air gap. (8pp)e

60/3,AB/6 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX

004124992
WPI Acc No: 1984-270533/198444
XRPX Acc No: N84-201809

Electronically commutated DC motor - has stator designed as double T-shape with winding arranged on common limb

Patent Assignee: ALCATEL NV (ALCA-N); STAND ELEK LORENZ (INTT)
Inventor: FEIGEL J; GLASAUER R

Number of Countries: 006 Number of Patents: 006
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 3314239	A	19841025	DE 3314239	A	19830420	198444 B
EP 125502	A	19841121	EP 84104146	A	19840412	198447
JP 60043056	A	19850307	JP 8479317	A	19840419	198516
US 4558245	A	19851210	US 84598956	A	19840411	198601
EP 125502	B	19880406				198814
DE 3470366	G	19880511				198820

Priority Applications (No Type Date): DE 3314239 A 19830420; DE 3318463 A 19830520
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 3314239	A		15		
EP 125502	A	G			
	Designated States (Regional): FR GB IT				
EP 125502	B	G			
	Designated States (Regional): DE FR GB IT				

Abstract (Basic): EP 125502 A

Electronically commutated d.c. motor comprising a **permanent-magnet** rotor which consists of a dome-shaped body (1) of magnetisable material and of a **permanent magnet** (2) disposed on the inner circumference thereof, and further comprising a stator provided with a winding producing an alternating field, the stator having a double-T-shaped design and the stator winding (7) being disposed on the common **yoke** of the **double** T, characterised in that the stator is composed of one yoke stack (3) and two **pole** stacks

(4), each **pole** stack (4) is provided on the same side with an extension (5) in the circumferential direction and the **pole** stacks (4) are designed in such a way that a constant air gap is created between the stator and the rotor, and that the stator windings (7) are carried in such a way on two coliforms (6) disposed on the yoke stack (3) that in each case a yoke-stack half with a **pole** stack forms a stator **pole** and the axes (17) of the yoke-stack halves are staggered oppositely in relation to each other, parallel with the longitudinal axis (16) of the entire yoke stack (3).

(8pp)

DE 3314239 A

The motor has a **permanent magnet** rotor consisting of a bell-shaped body made of magnetisable material and a **permanent magnet** arranged on the inner periphery of the rotor. The stator is provided with a winding for setting up the a.**c. magnetic** field, the stator is made in the form of a double 'T' with the stator winding arranged on the common limit of the double-T.

The **pole** laminations (3,4) together with the yoke have the stator windings (7) arranged around them asymmetrically to the

longitudinal axis of the stator, and **pole** stack (4) is arranged such that a constant air-gap is formed between the stator and rotor. Each **pole** stack (4) is provided on the same side with an extension (5) in the peripheral direction and the stator winding (7) is wound on bobbin (6) arranged on the yoke stack (3).

ADVANTAGE - Allows max. twisting of the rotor relative to the stator in the idling position without diminishing the permeance of the air-gap. Can be assembled on automated machinery.

1,2/7

Abstract (Equivalent): EP 125502 B

Electronically commutated d.c. motor comprising a **permanent-magnet** rotor which consists of a dome-shaped body (1) of magnetisable material and of a **permanent magnet** (2) disposed on the inner circumference thereof, and further comprising a stator provided with a winding producing an alternating field, the stator having a double-T-shaped design and the stator winding (7) being disposed on the common **yoke** of the **double** T, characterised in that the stator is composed of one yoke stack (3) and two **pole** stacks (4), each **pole** stack (4) is provided on the same side with an extension (5) in the circumferential direction and the **pole** stacks (4) are designed in such a way that a constant air gap is created between the stator and the rotor, and that the stator windings (7) are carried in such a way on two coliforms (6) disposed on the yoke stack (3) that in each case a yoke-stack half with a **pole** stack forms a stator **pole** and the axes (17) of the yoke-stack halves are staggered oppositely in relation to each other, parallel with the longitudinal axis (16) of the entire yoke stack (3).

Abstract (Equivalent): US 4558245 A

The motor has a dome-shaped external rotor and a stator of a double-T-shaped configuration. The stator includes one yoke stack disposed asymmetrically in relation to the longitudinal stator axis.

In addition, the stator includes two **pole** stacks each of which is provided on the same side with an extension in the circumferential direction. A printed circuit board is secured to a mounting flange of the d.c. motor.

ADVANTAGE - Phase displacement of rotor w.r.t. stator is as large as possible without causing any deterioration of magnetic air gap conductance.

(8pp

60/3,AB/7 (Item 6 from file: 350)

DIALOG(R)File 350:Derwent WPIX

003626907

WPI Acc No: 1983-H5110K/198323

XRPX Acc No: N83-097648

Small snap-action switch - has low operating force achieved using **yoke** with **two** pairs of **pole** shoes

Patent Assignee: MATSUSHITA ELECTRIC WORKS LTD (MATW); SDS-ELEKTRO GMBH (SDSE-N)

Inventor: DIETRICH B

Number of Countries: 003 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 3146068	A	19830601				198323 B
JP 58135520	A	19830812				198338
DE 3146068	C	19831006				198341
US 4499345	A	19850212	US 82442875	A	19821119	198509

Priority Applications (No Type Date): DE 3146068 A 19811120
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
DE 3146068 A 14
Abstract (Basic): DE 3146068 A

The switch has its retaining magnet system provided with at least one yoke that closes the magnetic circuit in both positions of the armature. The **yoke** consists of **two** parallel **C-shaped pole plates** between whose limbs the **permanent magnet** is located.

The ends of the **pole plates** act as opposing **pole** shoes between which the armature extends. The armature is pivoted eccentrically in the region of one of its two ends. The **pole** shoes at the pivoted end of the armature are closer together than the **pole** shoes at the free end of the armature.

60/3,AB/8 (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX

003396280
WPI Acc No: 1982-Q2162E/198246
High speed polarised electromagnetic relay - has **two**-piece **yoke** section, each portion having U-shaped **pole** piece and second **pole** piece contacting **permanent magnet**
Patent Assignee: MATSUSHITA ELECTRIC WORKS LTD (MATW); MATSUSHITA H (MATS-I); SDS ELEKTRO GMBH (SDSE-N); SDS-RELAIS AG (SDSR-N)
Inventor: MATSUSHITA H
Number of Countries: 009 Number of Patents: 014
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 8203944	A	19821111				198246	B
JP 57180831	A	19821108				198250	
JP 57180832	A	19821108				198250	
DE 3243266	A	19830505	DE 3243266	A	19820430	198319	
EP 78324	A	19830511	EP 82901306	A	19820430	198320	
GB 2112212	A	19830713	GB 8237054	A	19820430	198328	
CA 1169897	A	19840626				198430	
US 4509026	A	19850402	US 82459873	A	19821229	198516	
GB 2112212	B	19851002				198540	
DE 3243266	C	19860626				198626	
AT 8209024	A	19870415				198719	
EP 78324	B	19870812				198732	
CH 662671	A	19871015				198746	
IT 1152036	B	19861224				198850	

Priority Applications (No Type Date): JP 8165602 A 19810430; JP 8165601 A 19810430
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
WO 8203944 A J 22
Designated States (National): AT CH DE GB US
Designated States (Regional): FR
EP 78324 A G
Designated States (Regional): FR
EP 78324 B G
Designated States (Regional): FR

Abstract (Basic): WO 8203944 A

The relay is composed of a yoke section having air gaps at four diagonal positions and an **H-shaped** armature block (7) having four armature portions which are positioned in the air gaps of the yoke section, respectively. The armature portions are arranged to enable a parallel movement.

The yoke section is composed of **two yoke** units, each composed of a first **pole** piece (1) approximately U-shaped and a **permanent magnet** (6) having the one **pole** positioned over the centre of the lower surface of the first **pole** piece. A second **pole** piece (5) contacts the other **pole** of the **permanent magnet** (6) and forms air gaps between both ends and both free ends of the first **pole** piece (1), respectively.

7/13

60/3,AB/9 (Item 8 from file: 350)
DIALOG(R)File 350:Derwent WPIX

002146207
WPI Acc No: 1979-G6144B/197931

Magnetic head **unit** for signal pick-up - has piezoelectric support of longitudinal form with two pairs of **plates**, head unit in bridge and variable voltage sources

Patent Assignee: SONY CORP (SONY)
Number of Countries: 007 Number of Patents: 008
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
NL 7900377	A	19790719				197931	B
DE 2901674	A	19790816				197934	
GB 2016787	A	19790926				197939	
FR 2414840	A	19790914				197943	
US 4233637	A	19801111				198048	
CA 1118096	A	19820209				198210	
GB 2016787	B	19820324				198212	
AT 7900359	A	19860215				198612	

Priority Applications (No Type Date): JP 782710 A 19780117

Abstract (Basic): NL 7900377 A

The **magnetic** head **unit** comprises a piezo-electric **support** unit with **two** electrodes (39, 40) on either side of a sandwich construction connected to earth at either end. On opposite sides and at alternate ends are two other electrode pairs. A bridge member is connected between the **plates**, and this constitutes a **magnetic** head (**H**) which has an air gap in the middle of it.

The two non-earthed electrodes are connected in an electronic circuit with a variable control voltage source (44), an inverter (47), an injection voltage source (46) and a pair of addition units (45, 48) which add a small differential voltage (delta V) to the main voltage (V

60/3,AB/10 (Item 9 from file: 350)
DIALOG(R)File 350:Derwent WPIX

001467484
WPI Acc No: 1976-D0383X/197614

Amplitude - stabilised mechanical oscillator - has non-magnetic vibrator which is fixed between two **C-shaped** springs and above two coils

Patent Assignee: MEIER G (MEIE-I)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DD 88960	B	19760120				197614	B

Priority Applications (No Type Date): DD 154999 A 19710511

Abstract (Basic): DD 88960 B

The amplitude-stabilised mechanical oscillator has a non-magnetic support piece (2) of U-shaped cross-section and connected to two **C-shaped** springs (3). The springs are fixed rigidly at their ends to a base **plate** (1) and carry at their centres two radially polarised **permanent magnets** (5). The magnets are symmetric and lie along the line of the vibrations of the oscillator. Two coils (4) with soft-iron cores (6) are mounted beneath the base **plate** opposite the **two** magnets. The **support** piece is only free to oscillate along its longer axis. The oscillator can be adjusted to vibrate with amplitudes of several millimetres down to hundredths of a millimetre.

60/3,AB/11 (Item 10 from file: 350)
DIALOG(R)File 350:Derwent WPIX

001459496
WPI Acc No: 1976-C2389X/197610
Polarised relay with differential magnetic system - uses self-centring prism-axis for long life and stability

Patent Assignee: LESHCHINSKII A I (LESH-I)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
SU 451143	A	19750623				197610	B

Priority Applications (No Type Date): SU 1651337 A 19710416

Abstract (Basic): SU 451143 A

Two cores (1) carry two coils (2). The yoke (3) is fixed to the cores by screws (4) and it **supports two permanent magnets** (5). The prism (6) supports movable armature (7) which is fixed by the screws (8) to the prism axis (9) having a **C-shape** with straightened terminal **plates**. Two limiting screws (10) are for setting a gap ensuring free armature movement. Passing current through the coils (2) pulls the armature (7) towards the left or right core (1). The armature (7) turns around its supporting prism (6). The break-away movement of the armature from the supporting prism is prevented by the prism-axis (9) with head of a limiting screw (10).

60/3,AB/12 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO

08441566

OPTICAL DEFLECTOR

PUB. NO.: 2005-189826 [JP 2005189826 A]
PUBLISHED: July 14, 2005 (20050714)
INVENTOR(s): KAMIYA NOBUTAKA
MATSUO DAISUKE
MIYAJIMA HIROSHI
NISHIO MASAHIRO
APPLICANT(s): OLYMPUS CORP
APPL. NO.: 2004-328815 [JP 2004328815]
FILED: November 12, 2004 (20041112)
PRIORITY: 2003-405787 [JP 2003405787], JP (Japan), December 04, 2003 (20031204)

ABSTRACT

PROBLEM TO BE SOLVED: To provide an optical deflector having an excellent driving efficiency in a two-dimensional optical deflector of an electromagnetic driving type which deflects a light beam around two axes. SOLUTION: The optical deflector 100 has a **magnet unit** 170 which generates a magnetic field, and a movable **plate** unit 110 which is placed in the magnetic field generated by the **magnet unit** 170. The movable **plate** unit 110 and the **magnet unit** 170 are placed with a prescribed distance. The movable **plate** unit 110 has an inner movable **plate**, an outer movable **plate**, two inner torsion bars, a **support** and **two** outer torsion bars. The movable **plate** unit 110 further has an inner driving wiring portion 132a that extends along by a periphery of the inner movable **plate**. The inner driving wiring portion 132a extends almost parallel to the boundary between the magnet 172 and the magnet 174a and is located substantially immediately above the boundary between the magnet 172 and the **magnet** 174a .

60/3,AB/13 (Item 2 from file: 347)

07118703
LINEAR MOTOR

PUB. NO.: 2001-346371 [JP 2001346371 A]
PUBLISHED: December 14, 2001 (20011214)
INVENTOR(s): UEDA TETSUJI
TOGASHI HITOO
HIDA HAJIME
APPLICANT(s): SANYO ELECTRIC CO LTD
APPL. NO.: 2000-161443 [JP 2000161443]
FILED: May 31, 2000 (20000531)

ABSTRACT

PROBLEM TO BE SOLVED: To improve accuracy of a first yoke 22 in the diameter direction for an internal case 20 and also simplify the mounting structure of the same by forming the first yoke 22 having almost the U-shaped cross-section to form a stator iron core 12.

SOLUTION: In this linear motor 10, a stator iron core 12 is structured with a first yoke 22 of the almost U-shaped cross-section formed by laminating

magnetic steel **plates** and a **second yoke** 24 of the almost I-shaped cross-section formed by laminating magnetic steel **plates** keeping the predetermined gap 16 for the first yoke 22, an excitation coil 14 is loaded to this stator iron core 12 and a **permanent magnet** 18 is located to freely move within the gap 16 and moreover this stator iron core 12 is accommodated within an internal case 20. Moreover, a recess 26 is provided to the end 22a of a side of the first yoke 22 forming the stator iron core 12, this recess 26 is engaged with one end 24a of the **second yoke** 24, and the other end 24 is provided opposed to the end portion 22b of the other side of the first yoke 22 to form the gap 16 for location of the **permanent magnet** 18.

60/3,AB/14 (Item 3 from file: 347)

07024164
PERMANENT MAGNET ROTOR

PUB. NO.: 2001-251796 [JP 2001251796 A]
PUBLISHED: September 14, 2001 (20010914)
INVENTOR(s): SHIMOMURA EIJI
MOCHIZUKI SUKEYASU
NISHIZAWA TAKASHI
APPLICANT(s): TOSHIBA CORP
APPL. NO.: 2000-060219 [JP 200060219]
FILED: March 06, 2000 (20000306)

ABSTRACT

PROBLEM TO BE SOLVED: To increase magnetic force from a **permanent magnet** rotor fitted with a magnet **magnetized** as a **single** body by increasing the magnetic force of the magnet.

SOLUTION: A magnet 13 is constituted, by jointing the magnetic **pole** surface on one side of each of **two supports** 15 to magnetic **pole** surfaces on both sides of a magnetic substance 14 for the magnet. In the magnet 13, the distance between the magnetic **pole** surfaces of the magnet 13 increases by the distance between the magnetic **pole** surfaces of the supports 15, so that it is possible to decrease a demagnetizing due to a demagnetizing field when magnetizing, thereby producing a magnet 13' with high magnetism. It is thus possible to increase the magnetism generated from the **permanent magnet** rotor mounted with the **magnet** 13'.

60/3,AB/15 (Item 4 from file: 347)

06692962
SPEAKER AND SPEAKER UNIT

PUB. NO.: 2000-278792 [JP 2000278792 A]
PUBLISHED: October 06, 2000 (20001006)

INVENTOR(s): FUJIHIRA MASAO
YAMAGISHI AKIRA
MIZUUCHI TAKAYUKI
SHINOHARA IKUO
APPLICANT(s): SONY CORP
APPL. NO.: 11-086567 [JP 9986567]
FILED: March 29, 1999 (19990329)

ABSTRACT

PROBLEM TO BE SOLVED: To improve the efficiency of a magnetic circuit having low efficiency by forming a yoke and a frame surrounding the magnetic circuit into an integrated structure of a yoke to be utilized also as a frame.

SOLUTION: A ring-like sub-**plate** 26 is formed so as to be continued to the upper end part of a sidewall **yoke** 31b. A **second** magnetic gap is formed between the inner diameter part of the sub-**plate** 26 and the outer peripheral face of the center **pole** 22a of the yoke 22 and the outer peripheral edge part of the sub-**plate** 26 is formed so as to be continued to the upper end part or sidewall part of the yoke 31b. In unifying the sub-**plate** 26 and the yoke 31b, the peripheral part of the ring-like disc of the sub-**plate** 26 is bent upward to form a cylindrical part, which is then engaged with the inner diameter of the yoke 31b and fixed so as to be united with the yoke 31b by spot welding or the like. Since the frame 5 and the sidewall yoke 31b surrounding a **magnetic** circuit are **integrally** constituted, a **magnetism** isolation effect can be obtained by a ring-like magnet 23 constituting a **magnetic** circuit.

60/3,AB/16 (Item 5 from file: 347)
DIALOG(R)File 347:JAPIO

06674791
MANUFACTURE OF ANISOTROPIC OXIDE **PERMANENT MAGNET** AND METAL MOLD

PUB. NO.: 2000-260617 [JP 2000260617 A]
PUBLISHED: September 22, 2000 (20000922)
INVENTOR(s): MORI YOSHIHIRO
OSAWA TOSHIKUNI
APPLICANT(s): TDK CORP
APPL. NO.: 11-067000 [JP 9967000]
FILED: March 12, 1999 (19990312)

ABSTRACT

PROBLEM TO BE SOLVED: To obtain a method of manufacturing an anisotropic oxide **permanent magnet**, capable of molding a number of products having uniform magnetic characteristics by improving magnetic **pole** constitution for magnetic field orientation, and a metallic mold for the same.

SOLUTION: A metal mold is used which comprises a mortar 1 in which a pair of magnetic **poles** 2 for magnetic field orientation are placed and in which a plurality of roughly cylindrical molding spaces 3 are formed in an

arrangement of one **column** or **two columns** in the direction normal to the magnetic path direction. Each of the magnetic **poles** 2 has a width that comprises the width corresponding to the roughly cylindrical molding spaces 3 and a pair of additional magnetic-**pole** width Wa, which is 0.3-1.5 times the magnetic-**pole** width W for one piece of the molding space, in both end parts. Material powder of oxide **permanent magnet** or slurry containing the powder is charged in the roughly cylindrical molding spaces, and is molded under an orientating magnetic field produced by the pair of **magnetic poles**.